

Mwaonicha 10_798880- History

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(FILE 'REGISTRY' ENTERED AT 16:53:55 ON 01 AUG 2005)

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L1          STR
L2      197145 SEA SSS FUL L1
L3          STR
L4      34 SEA SSS SAM L3
L5      20237 SEA SUB=L2 SSS FUL L3
L6      12100 SEA ABB=ON PLU=ON METAL OR LANTHANIDE OR TRANSITION
L7      180378 SEA ABB=ON PLU=ON ION OR IONS
L9      284086 SEA ABB=ON PLU=ON METHANOL
L10     224712 SEA ABB=ON PLU=ON ETHANOL/BI
L11     28277 SEA ABB=ON PLU=ON ALCOHOL OR ALCOHOLS
L12     44 SEA ABB=ON PLU=ON ALKANOL OR ALKANOLS
L13     8575 SEA ABB=ON PLU=ON N-PROPANOL?/CN OR ISO-PROPANOL?/CN OR
      N-BUTANOL?/CN OR 2-BUTANOL?/CN OR METHOXYETHANOL

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FILE 'HCAPLUS' ENTERED AT 17:49:16 ON 01 AUG 2005

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L22     5443 SEA ABB=ON PLU=ON L5
L23     3711905 SEA ABB=ON PLU=ON L6 OR METAL OR LANTHANIDE
L24     2157436 SEA ABB=ON PLU=ON L7 OR ION OR IONS
L25     192886 SEA ABB=ON PLU=ON (L23 OR TRANSITION) (5A) L24
L26     46 SEA ABB=ON PLU=ON L22 AND L25
L27     14417 SEA ABB=ON PLU=ON (ALCOHOLYSIS/CV OR ALCOHOLYSES/CV OR
      ALKANOLYSIS/CV OR ETHANOLYSIS/CV OR METHANOLYSIS/CV OR
      "ALCOHOLYSIS CATALYSTS"/CV OR "ALCOHOLYSIS KINETICS"/CV OR
      TRANSESTERIFICATION/CV) OR ALCOHOLYSIS
L28     18 SEA ABB=ON PLU=ON L27 AND L22

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FILE 'REGISTRY' ENTERED AT 17:56:32 ON 01 AUG 2005

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L29     143 SEA ABB=ON PLU=ON PARAOXON OR G(W) AGENT OR VX

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FILE 'HCAPLUS' ENTERED AT 18:13:42 ON 01 AUG 2005

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L30     493632 SEA ABB=ON PLU=ON L29 OR PARAOXON OR G(W) AGENT OR VX
L31     265 SEA ABB=ON PLU=ON L27 AND (L30 OR ORGANOPHOS? OR PESTICID?
      OR INSECTICID?)
L32     33 SEA ABB=ON PLU=ON L31 AND L24
L33     3410 SEA ABB=ON PLU=ON (L22 OR L30) (L) DECOMPO?
L34     52 SEA ABB=ON PLU=ON L25 AND L33
L35     35 SEA ABB=ON PLU=ON L34 NOT THERMAL (2A) DECOMPO?
L36     132 SEA ABB=ON PLU=ON L26 OR L28 OR L32 OR L35
L37     114 SEA ABB=ON PLU=ON L36 AND PD=<MARCH 12, 2003
L38     40 SEA ABB=ON PLU=ON L37 AND (ALCOHOL OR L9 OR L10 OR L11 OR
      L12 OR L13 OR METHANOL OR ?ETHANOL OR ALKANOL OR PROPANOL OR
      BUTANOL)
      D STAT QUE
      D IBIB ABS HITSTR L38 1-40
L45     18 SEA ABB=ON PLU=ON L22 AND L27
L46     18 SEA ABB=ON PLU=ON L45 AND PD=<MARCH 12, 2003
L47     8 SEA ABB=ON PLU=ON L46 NOT L38
      D STAT QUE
      D IBIB ABS HITSTR L47 1-8
L50     229 SEA ABB=ON PLU=ON L31 AND PD=<MARCH 12, 2003
L51     93 SEA ABB=ON PLU=ON L50 AND (L23 OR L24)
L52     746 SEA ABB=ON PLU=ON L27 (L) (L22 OR L23 OR L24)
L53     34 SEA ABB=ON PLU=ON L51 AND L52
L54     33 SEA ABB=ON PLU=ON L53 NOT L38
      D STAT QUE

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Mwaonicha 10_798880- History

D IBIB ABS HITSTR L54 1-33

L55 580096 SEA ABB=ON PLU=ON (L22 OR L30 OR ORGANOPHOS? OR PESTICID? OR INSECTICID?) NOT (L22 OR L30 OR ORGANOPHOS? OR PESTICID? OR INSECTICID?) (L) (PREPARATION OR MANUFACT? OR SYNTHESIS)

L56 4988 SEA ABB=ON PLU=ON L55 AND L25

L57 167 SEA ABB=ON PLU=ON L56 AND (L27 OR DECOMP?)

L65 116727 SEA ABB=ON PLU=ON (L23 OR TRANSITION) (A) L24

L66 127 SEA ABB=ON PLU=ON L57 AND (L65 OR LANTH? OR NEUTRAL OR METHANOLYSIS)

L67 121 SEA ABB=ON PLU=ON L66 NOT L38

L68 61 SEA ABB=ON PLU=ON L67 NOT (SLAGS OR ANCHOR? OR SILICATE OR THERMAL(W) DECOMP? OR HYDROGEN(W) PEROXIDE OR AUTOCLAV? OR BACILLUS)

D STAT QUE

D IBIB ABS HITSTR L68 1-61

FILE 'REGISTRY' ENTERED AT 19:06:35 ON 01 AUG 2005

L73 1 SEA ABB=ON PLU=ON LA3+/BI

L74 13 SEA ABB=ON PLU=ON CU2+/BI

L75 1 SEA ABB=ON PLU=ON PT2+/BI

L76 66 SEA ABB=ON PLU=ON PD2/BI

L77 85 SEA ABB=ON PLU=ON ZN2/BI

L78 1 SEA ABB=ON PLU=ON Y3+/BI

L79 1 SEA ABB=ON PLU=ON SC3+/BI

FILE 'HCAPLUS' ENTERED AT 19:11:12 ON 01 AUG 2005

L80 15815 SEA ABB=ON PLU=ON L73 OR L74 OR L75 OR L76 OR L77 OR L78 OR L79

L84 606 SEA ABB=ON PLU=ON L80 AND (L22 OR L30 OR ORGANOPHOS? OR PESTICID? OR INSECTICID?)

L86 67 SEA ABB=ON PLU=ON L84 AND (DEGRAD? OR DECOMP? OR NEUTRAL?)

L87 66 SEA ABB=ON PLU=ON L86 NOT (L38 OR L68)

L88 61 SEA ABB=ON PLU=ON L87 NOT (THERMAL(W) DECOMP? OR SILCA?)

L89 8 SEA ABB=ON PLU=ON L88 AND ORGANOPHOS?

D STAT QUE L89

D IBIB ABS HITSTR L89 1-8

FILE HCAPLUS

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FILE COVERS 1907 - 1 Aug 2005 VOL 143 ISS 6

FILE LAST UPDATED: 31 Jul 2005 (20050731/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file

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provided by InfoChem.

STRUCTURE FILE UPDATES: 31 JUL 2005 HIGHEST RN 857744-76-4
DICTIONARY FILE UPDATES: 31 JUL 2005 HIGHEST RN 857744-76-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

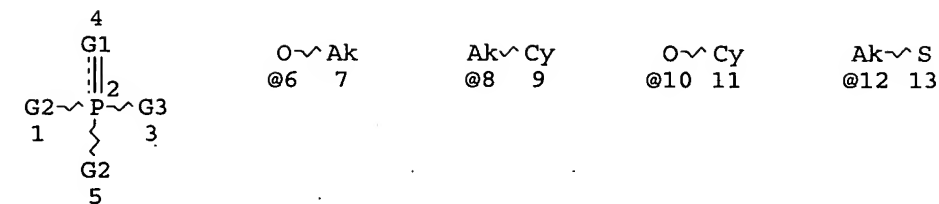
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*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*
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Structure search iteration limits have been increased. See HELP SLIMITS
for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

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 VAR G3=6/10/14/12/X/CN
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 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE

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L6	12100	SEA FILE=REGISTRY ABB=ON	PLU=ON METAL OR LANTHANIDE OR TRANSITION
L7	180378	SEA FILE=REGISTRY ABB=ON	PLU=ON ION OR IONS
L9	284086	SEA FILE=REGISTRY ABB=ON	PLU=ON METHANOL
L10	224712	SEA FILE=REGISTRY ABB=ON	PLU=ON ETHANOL/BI
L11	28277	SEA FILE=REGISTRY ABB=ON	PLU=ON ALCOHOL OR ALCOHOLS
L12	44	SEA FILE=REGISTRY ABB=ON	PLU=ON ALKANOL OR ALKANOLS
L13	8575	SEA FILE=REGISTRY ABB=ON	PLU=ON N-PROPANOL?/CN OR ISO-PROPANO L?/CN OR N-BUTANOL?/CN OR 2-BUTANOL?/CN OR METHOXYETHANOL
L22	5443	SEA FILE=HCAPLUS ABB=ON	PLU=ON L5
L23	3711905	SEA FILE=HCAPLUS ABB=ON	PLU=ON L6 OR METAL OR LANTHANIDE
L24	2157436	SEA FILE=HCAPLUS ABB=ON	PLU=ON L7 OR ION OR IONS
L25	192886	SEA FILE=HCAPLUS ABB=ON	PLU=ON (L23 OR TRANSITION) (5A) L24
L26	46	SEA FILE=HCAPLUS ABB=ON	PLU=ON L22 AND L25
L27	14417	SEA FILE=HCAPLUS ABB=ON	PLU=ON (ALCOHOLYSIS/CV OR ALCOHOLYSES /CV OR ALKANOLYSIS/CV OR ETHANOLYSIS/CV OR METHANOLYSIS/CV OR "ALCOHOLYSIS CATALYSTS"/CV OR "ALCOHOLYSIS KINETICS"/CV OR TRANSESTERIFICATION/CV) OR ALCOHOLYSIS
L28	18	SEA FILE=HCAPLUS ABB=ON	PLU=ON L27 AND L22
L29	143	SEA FILE=REGISTRY ABB=ON	PLU=ON PARAOXON OR G(W) AGENT OR VX
L30	493632	SEA FILE=HCAPLUS ABB=ON	PLU=ON L29 OR PARAOXON OR G(W) AGENT OR VX
L31	265	SEA FILE=HCAPLUS ABB=ON	PLU=ON L27 AND (L30 OR ORGANOPHOS? OR PESTICID? OR INSECTICID?)
L32	33	SEA FILE=HCAPLUS ABB=ON	PLU=ON L31 AND L24
L33	3410	SEA FILE=HCAPLUS ABB=ON	PLU=ON (L22 OR L30) (L) DECOMPO?
L34	52	SEA FILE=HCAPLUS ABB=ON	PLU=ON L25 AND L33
L35	35	SEA FILE=HCAPLUS ABB=ON	PLU=ON L34 NOT THERMAL (2A) DECOMPO?
L36	132	SEA FILE=HCAPLUS ABB=ON	PLU=ON L26 OR L28 OR L32 OR L35
L37	114	SEA FILE=HCAPLUS ABB=ON	PLU=ON L36 AND PD=<MARCH 12, 2003
L38	40	SEA FILE=HCAPLUS ABB=ON	PLU=ON L37 AND (ALCOHOL OR L9 OR L10 OR L11 OR L12 OR L13 OR METHANOL OR ?ETHANOL OR ALKANOL OR

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 18:13:42 ON 01 AUG 2005

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FILE COVERS 1907 - 1 Aug 2005 VOL 143 ISS 6

FILE LAST UPDATED: 31 Jul 2005 (20050731/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

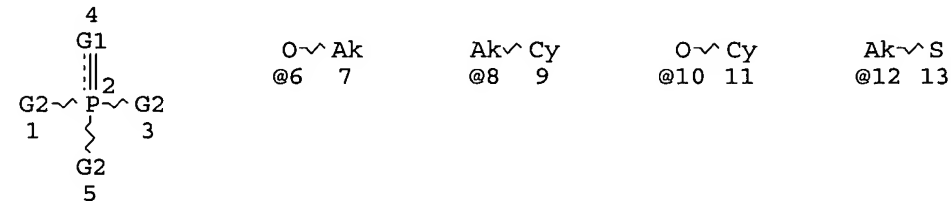
This file contains CAS Registry Numbers for easy and accurate substance identification.

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=> d stat que

L1 STR



S~Ak
@14 15

VAR G1=O/S

VAR G2=6/8/10/12/14/X/CN/AK

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE

L2 197145 SEA FILE=REGISTRY SSS FUL L1

L3 STR

PROPANOL OR BUTANOL)

=>
=>

=> d ibib abs hitstr l38 1-40

L38 ANSWER 1 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:392331 HCAPLUS
 DOCUMENT NUMBER: 140:406798
 TITLE: Preparation of benzoxepinopyridines as HMG-CoA
 reductase inhibitors
 INVENTOR(S): Robl, Jeffrey A.; Chen, Bang-chi; Sun, Chong-qing
 PATENT ASSIGNEE(S): Bristol-Myers Squibb Company, USA
 SOURCE: U.S. Pat. Appl. Publ., 44 pp., Cont.-in-part of U.S.
 Ser. No. 875,155, abandoned.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004092573	A1	20040513	US 2003-602752	20030624
US 6812345	B2	20041102		
US 2002013334	A1	20020131	US 2001-875155	20010606 <--
PRIORITY APPLN. INFO.:			US 2000-211595P	P 20000615
			US 2001-875155	B2 20010606
OTHER SOURCE(S):	MARPAT 140:406798			
GI				

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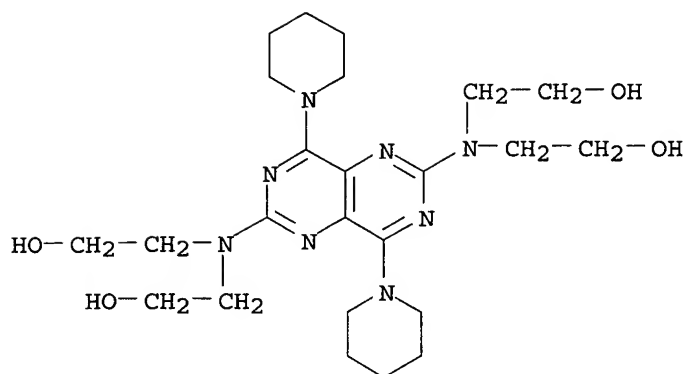
AB Title compds. I [X = O, S, SO, SO₂, NR₇; Z = HOCHCH₂CH(OH)CH₂CO₂R₃, 4-hydroxy-2-oxopyran-6-yl, etc.; n = 0, 1; R₁, R₂ = alkyl, arylalkyl, cycloalkyl, alkenyl, cycloalkenyl, aryl, heteroaryl, cycloheteroalkyl; R₃ = H, alkyl, metal ion; R₄ = H, halo, CF₃, etc.; R₇ = H, alkyl, aryl, alkanoyl, aroyl, alkoxycarbonyl, etc.; R₉, R₁₀ = H, alkyl], were prepared as HMG CoA reductase inhibitors active in inhibiting cholesterol biosynthesis, modulating blood serum lipids such as lowering LDL cholesterol and/or increasing HDL cholesterol, and treating hyperlipidemia, hypercholesterolemia, hypertriglyceridemia and atherosclerosis (no data). A multistep synthesis of II is reported.

IT 58-32-2, Dipyrindamole 14838-15-4, Phenylpropanolamine 98048-97-6, Fosinopril 114798-26-4, Losartan

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (coadministered agents; preparation of benzoxepinopyridines as HMG-CoA reductase inhibitors for treatment of hyperlipidemia, hypercholesterolemia, hypertriglyceridemia, atherosclerosis, and other disorders)

RN 58-32-2 HCAPLUS

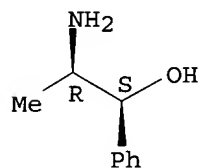
CN Ethanol, 2,2',2'',2'''-[(4,8-di-1-piperidinylpyrimido[5,4-d]pyrimidine-2,6-diyl)dinitrilo]tetrakis- (9CI) (CA INDEX NAME)



RN 14838-15-4 HCAPLUS

CN Benzenemethanol, α -[(1R)-1-aminoethyl]-, (α S)-rel- (9CI) (CA INDEX NAME)

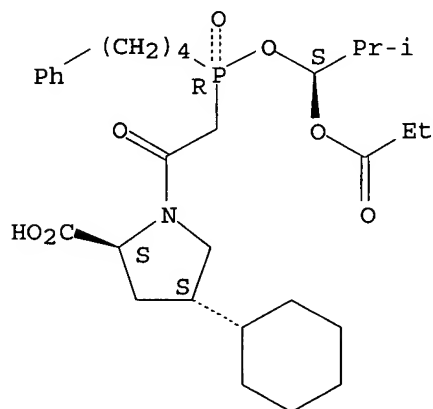
Relative stereochemistry.



RN 98048-97-6 HCAPLUS

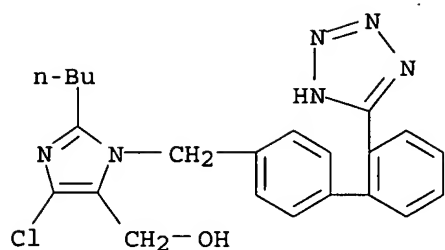
CN L-Proline, 4-cyclohexyl-1-[[(R)-[(1S)-2-methyl-1-(1-oxopropoxy)propoxy] (4-phenylbutyl)phosphinyl]acetyl]-, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



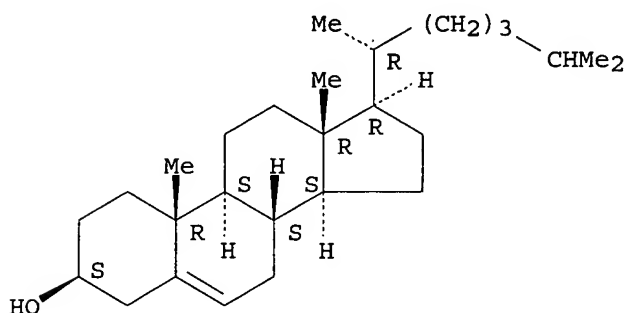
RN 114798-26-4 HCAPLUS

CN 1H-Imidazole-5-methanol, 2-butyl-4-chloro-1-[[2'-(1H-tetrazol-5-yl)[1,1'-biphenyl]-4-yl]methyl]- (9CI) (CA INDEX NAME)

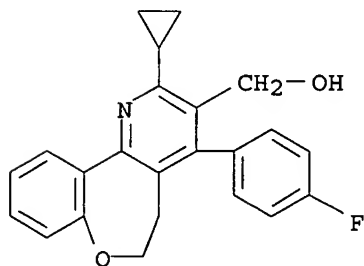


IT 57-88-5, Cholesterol, biological studies
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (inhibitors of absorption, coadministered agents; preparation of
 benzoxepinopyridines as HMG-CoA reductase inhibitors for treatment of
 hyperlipidemia, hypercholesterolemia, hypertriglyceridemia,
 atherosclerosis, and other disorders)
 RN 57-88-5 HCAPLUS
 CN Cholest-5-en-3-ol (3 β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

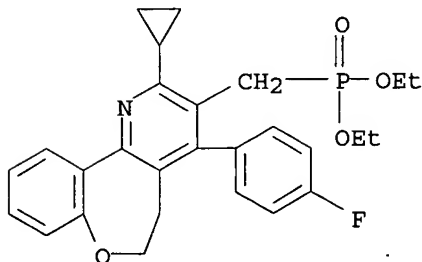


IT 380460-02-6P 380460-06-0P 380460-19-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation of benzoxepinopyridines as HMG-CoA reductase inhibitors for
 treatment of hyperlipidemia, hypercholesterolemia,
 hypertriglyceridemia, atherosclerosis, and other disorders)
 RN 380460-02-6 HCAPLUS
 CN [1]Benzoxepino[5,4-b]pyridine-3-methanol, 2-cyclopropyl-4-(4-fluorophenyl)-
 5,6-dihydro- (9CI) (CA INDEX NAME)



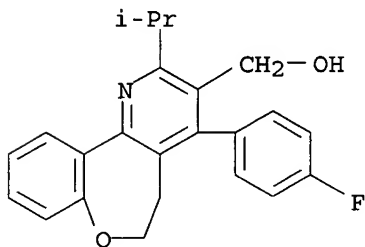
RN 380460-06-0 HCAPLUS

CN Phosphonic acid, [[2-cyclopropyl-4-(4-fluorophenyl)-5,6-dihydro[1]benzoxepino[5,4-b]pyridin-3-yl]methyl]-, diethyl ester (9CI)
(CA INDEX NAME)



RN 380460-19-5 HCAPLUS

CN [1]Benzoxepino[5,4-b]pyridine-3-methanol, 4-(4-fluorophenyl)-5,6-dihydro-2-(1-methylethyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 2 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:540258 HCAPLUS

DOCUMENT NUMBER: 137:109267

TITLE: Preparation of benzoxepinopyridines as HMG-CoA reductase inhibitors

INVENTOR(S): Robl, Jeffrey A.; Chen, Bang-chi; Sun, Chong-qing

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 42 pp., Cont.-in-part of U.S. Ser. No. 875,155.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

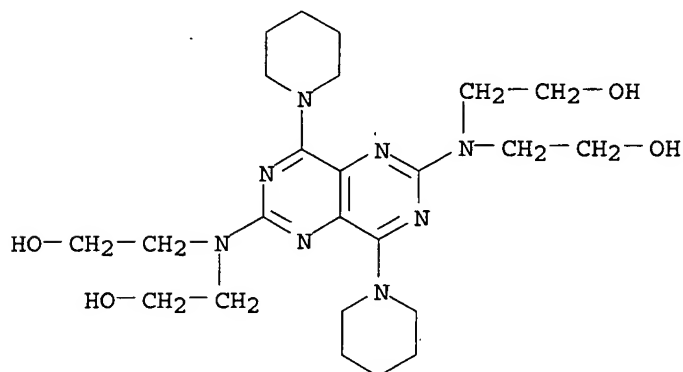
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 6627636	B2	20030930		
US 2002013334	A1	20020131	US 2001-875155	20010606 <--
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			US 2001-875155	A2 20010606

OTHER SOURCE(S): MARPAT 137:109267
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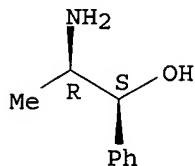
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

- AB Title compds. I [X = O, S, SO, SO₂, NR₇; Z = HOCHCH₂CH(OH)CH₂CO₂R₃, 4-hydroxy-2-oxopyran-6-yl, etc.; n = 0, 1; R₁, R₂ = alkyl, arylalkyl, cycloalkyl, alkenyl, cycloalkenyl, aryl, heteroaryl, cycloheteroalkyl; R₃ = H, alkyl, **metal ion**; R₄ = H, halo, CF₃, etc.; R₇ = H, alkyl, aryl, alkanoyl, aroyl, alkoxycarbonyl, etc.; R₉, R₁₀ = H, alkyl], were prepared as HMG CoA reductase inhibitors active in inhibiting cholesterol biosynthesis, modulating blood serum lipids such as lowering LDL cholesterol and/or increasing HDL cholesterol, and treating hyperlipidemia, hypercholesterolemia, hypertriglyceridemia and atherosclerosis (no data). A multistep synthesis of II is reported.
- IT 58-32-2, Dipyridamole 14838-15-4, Phenylpropanolamine 98048-97-6, Fosinopril 114798-26-4, Losartan
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (coadministered agents; preparation of benzoxepinopyridines as HMG-CoA reductase inhibitors for treatment of hyperlipidemia, hypercholesterolemia, hypertriglyceridemia, atherosclerosis, and other disorders)
- RN 58-32-2 HCAPLUS
- CN Ethanol, 2,2',2'',2'''-[(4,8-di-1-piperidinyldiprimido[5,4-d]pyrimidine-2,6-diyl)dinitrilo]tetrakis- (9CI) (CA INDEX NAME)



- RN 14838-15-4 HCAPLUS
- CN Benzenemethanol, α -[(1R)-1-aminoethyl]-, (α S)-rel- (9CI) (CA INDEX NAME)

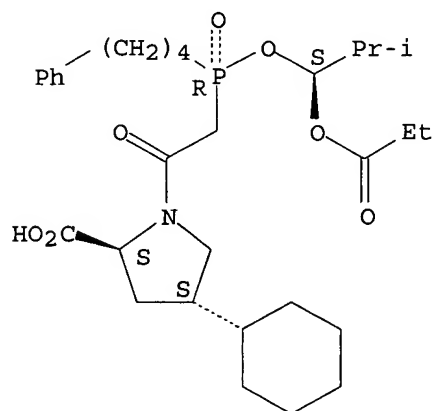
Relative stereochemistry.



- RN 98048-97-6 HCAPLUS
- CN L-Proline, 4-cyclohexyl-1-[[(R)-[(1S)-2-methyl-1-(1-oxopropoxy)propoxy] (4-

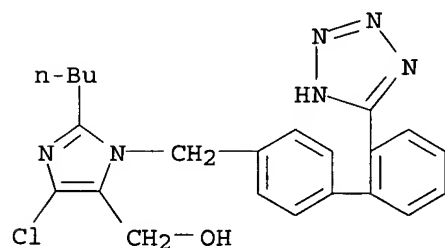
phenylbutyl)phosphinyl]acetyl]-, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 114798-26-4 HCAPLUS

CN 1H-Imidazole-5-methanol, 2-butyl-4-chloro-1-[[2'-(1H-tetrazol-5-yl)[1,1'-biphenyl]-4-yl]methyl]- (9CI) (CA INDEX NAME)



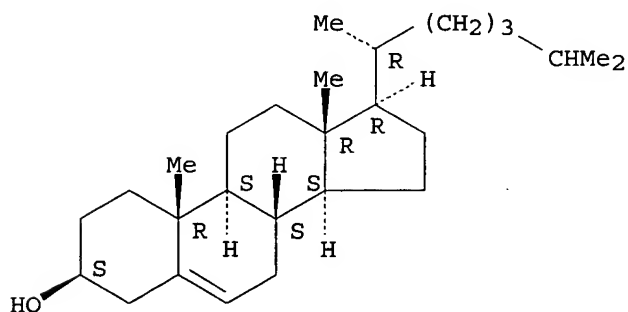
IT 57-88-5, Cholesterol, biological studies

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(inhibitors of absorption, coadministered agents; preparation of
benzoxepinopyridines as HMG-CoA reductase inhibitors for treatment of
hyperlipidemia, hypercholesterolemia, hypertriglyceridemia,
atherosclerosis, and other disorders)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



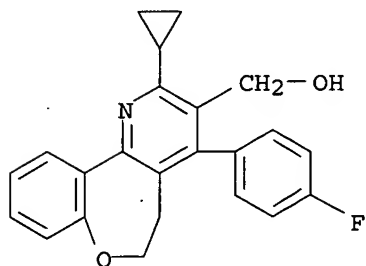
IT 380460-02-6P 380460-06-0P 380460-19-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of benzoxepinopyridines as HMG-CoA reductase inhibitors for treatment of hyperlipidemia, hypercholesterolemia, hypertriglyceridemia, atherosclerosis, and other disorders)

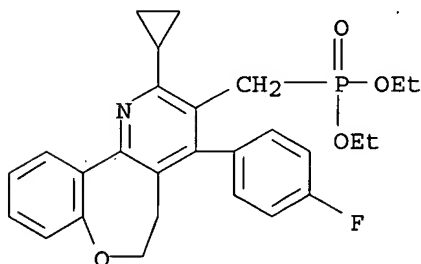
RN 380460-02-6 HCAPLUS

CN [1]Benzoxepino[5,4-b]pyridine-3-methanol, 2-cyclopropyl-4-(4-fluorophenyl)-5,6-dihydro- (9CI) (CA INDEX NAME)



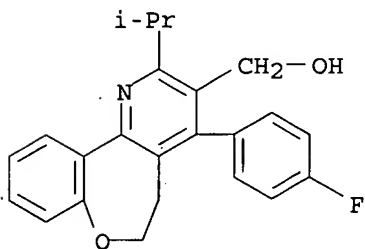
RN 380460-06-0 HCAPLUS

CN Phosphonic acid, [[2-cyclopropyl-4-(4-fluorophenyl)-5,6-dihydro[1]benzoxepino[5,4-b]pyridin-3-yl]methyl]-, diethyl ester (9CI) (CA INDEX NAME)



RN 380460-19-5 HCAPLUS

CN [1]Benzoxepino[5,4-b]pyridine-3-methanol, 4-(4-fluorophenyl)-5,6-dihydro-2-(1-methylethyl)- (9CI) (CA INDEX NAME)



ACCESSION NUMBER: 2001:733150 HCAPLUS
 DOCUMENT NUMBER: 136:38003
 TITLE: Design and Synthesis of Bipyridyl-Containing
 Conjugated Polymers: Effects of Polymer Rigidity on
Metal Ion Sensing
 AUTHOR(S): Liu, Bin; Yu, Wang-Lin; Pei, Jian; Liu, Shao-Yong;
 Lai, Yee-Hing; Huang, Wei
 CORPORATE SOURCE: Institute of Materials Research and Engineering
 (IMRE), National University of Singapore, Singapore,
 117602, Singapore
 SOURCE: Macromolecules (2001), 34(23), 7932-7940
 CODEN: MAMOBX; ISSN: 0024-9297
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Three conjugated polymers comprised of 9,9-dioctylfluorene and 2,2'-bipyridine, which are alternatively linked by the C-C single bond, vinylene bond, or ethynylene bond, were synthesized via the Suzuki reaction, the Wittig-Horner reaction, and the Heck reaction, resp. The optical, electrochem., and other phys. properties of the polymers are dependent on the linkers. The polymer linked by the C-C single bond exhibits a much larger Stokes shift compared with the other two polymers, indicative of higher extended and rigid backbone conformations in the polymers linked by the vinylene and ethynylene bonds. All the three polymers are sensitive to the existence of a variety of **transition metal ions** due to the chelation between the 2,2'-bipyridyl moieties and the **metal ions**. For the **metal ions** which have moderate and weak coordination ability with the 2,2'-bipyridyl moieties, an obvious difference in response sensitivity is observed among the three polymers: P1 has the highest sensitivity, which is followed by P2, and P3 always exhibits the lowest sensitivity. The different sensing sensitivity is attributed to the different backbone rigidity of the three polymers, which is caused by the three different linkers. The results suggest the use of C-C single bond linker in the mol. design toward the 2,2'-bipyridyl-based conjugated polymer chemosensors for achieving higher sensing sensitivity.

IT **380600-96-4P**

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (design and synthesis of bipyridyl-containing conjugated polymers and effects of polymer rigidity on **metal ion sensing**)

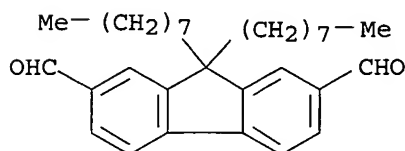
RN 380600-96-4 HCAPLUS

CN Phosphonic acid, [[2,2'-bipyridine]-5,5'-diylbis(methylene)]bis-, tetraethyl ester, polymer with 9,9-dioctyl-9H-fluorene-2,7-dicarboxaldehyde (9CI) (CA INDEX NAME)

CM 1

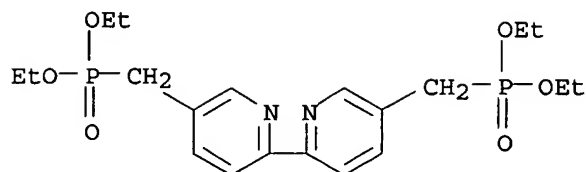
CRN 380600-91-9

CMF C31 H42 O2



CM 2

CRN 190130-69-9
CMF C20 H30 N2 O6 P2



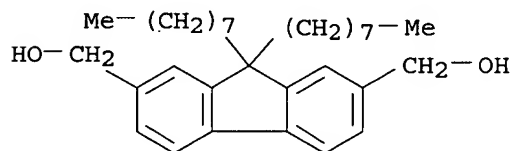
IT 222159-97-9P 380600-90-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; in preparation of monomers for synthesis of bipyridyl-containing conjugated polymers)

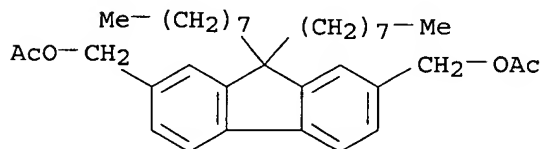
RN 222159-97-9 HCAPLUS

CN 9H-Fluorene-2,7-dimethanol, 9,9-dioctyl- (9CI) (CA INDEX NAME)



RN 380600-90-8 HCAPLUS

CN 9H-Fluorene-2,7-dimethanol, 9,9-dioctyl-, diacetate (9CI) (CA INDEX NAME)

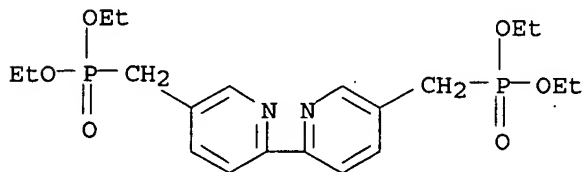


IT 190130-69-9P

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (monomer; in design and synthesis of bipyridyl-containing conjugated polymers and effects of polymer rigidity on metal ion sensing)

RN 190130-69-9 HCAPLUS

CN Phosphonic acid, [[2,2'-bipyridine]-5,5'-diylbis(methylene)]bis-, tetraethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 4 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:651046 HCAPLUS

DOCUMENT NUMBER: 136:8028

TITLE: Catalytic decomposition of cumene hydroperoxide into phenol and acetone

AUTHOR(S): Selvin, Rosilda; Rajarajeswari, G. R.; Selva Roselin, L.; Sadasivam, V.; Sivasankar, B.; Rengaraj, K.

CORPORATE SOURCE: Department of Chemistry, Anna University, Chennai, 600025, India

SOURCE: Applied Catalysis, A: General (2001), 219(1-2), 125-129

CODEN: ACAGE4; ISSN: 0926-860X

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The decomposition of cumene hydroperoxide (CHP) was carried out in a batch reactor over supported solid heteropolyacid catalysts on H₂SO₄ activated montmorillonite K10 (M-K10) and **metal-ion**-exchanged M-K10, at 30-60°. The metal catalyst supports were prepared by wet impregnation of M-K10 with metal chloride solns. (Zn, Fe, La, Ce). Acid-activated supported dodecatungstophosphoric acid (DTPA) showed 100% conversion within 5 min at 30°; the products were phenol and acetone. The correlation of catalytic activity with acidity revealed that both Lewis and Bronsted acid sites promote the decomposition. The reaction was first-order with respect to CHP. The heterogeneous catalysts may be used instead of sulfuric acid for selective decomposition of CHP into phenol and acetone with 100% conversion.

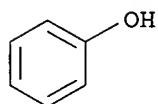
IT 108-95-2P; Phenol, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)

(acid modified clays and heteropolyacids as catalyst/support systems in decomposition of cumene hydroperoxide into phenol and acetone)

RN 108-95-2 HCAPLUS

CN Phenol (8CI, 9CI) (CA INDEX NAME)



IT 7631-86-9, Silica, uses

RL: CAT (Catalyst use); USES (Uses)

(catalyst support; acid modified clays and heteropolyacids as catalyst/support systems in **decomposition** of cumene hydroperoxide into phenol and acetone)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

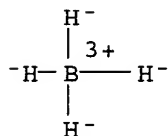


REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 5 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:489745 HCAPLUS
 DOCUMENT NUMBER: 135:99908
 TITLE: Molecular level optical information storage devices
 INVENTOR(S): Bignozzi, Carlo Alberto; Sanders, Patrick
 PATENT ASSIGNEE(S): Molecular Storage Technologies, Inc., USA
 SOURCE: PCT Int. Appl., 51 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001048751	A2	20010705	WO 2000-US41873	20001102 <--
WO 2001048751	C2	20020801		
WO 2001048751	A3	20021114		
WO 2001048751	C1	20031023		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6500510	B1	20021231	US 2000-544767	20000407 <--
AU 2001052871	A5	20010709	AU 2001-52871	20001102 <--
TW 526488	B	20030401	TW 2000-89123254	20001124
PRIORITY APPLN. INFO.:				
			US 1999-163547P	P 19991104
			US 2000-544767	A 20000407
			US 2000-557054	A 20000421
			WO 2000-US41873	W 20001102
AB The present invention relates to use of transition metal complexes in photochromic devices, to the production of optical information storage devices based on a polymeric matrix and on metal oxides with adsorbed transition metal complexes, to the production of photochromic materials constituted by a film of metal oxide with adsorbed two different type of mol. systems, one acting as a charge transfer sensitizer and the second as an electron acceptor.				
IT 16971-29-2, Borohydride RL: RCT (Reactant); RACT (Reactant or reagent) (organometallic transition metal complex photochromic material as optical recording material)				
RN 16971-29-2 HCAPLUS				
CN Borate(1-), tetrahydro- (8CI, 9CI) (CA INDEX NAME)				



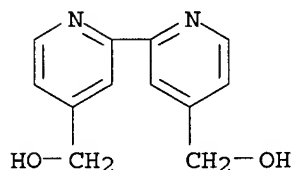
IT 109073-77-0P, 4,4'-Bis(hydroxymethyl)-2,2'-bipyridine
 176220-38-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)

(organometallic transition metal complex photochromic material as optical recording material)

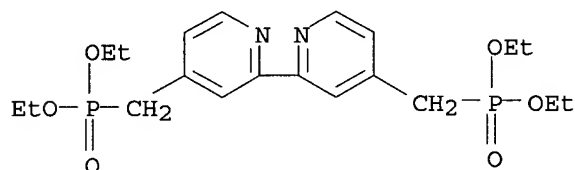
RN 109073-77-0 HCAPLUS

CN [2,2'-Bipyridine]-4,4'-dimethanol (9CI) (CA INDEX NAME)



RN 176220-38-5 HCAPLUS

CN Phosphonic acid, [[2,2'-bipyridine]-4,4'-diylbis(methylene)]bis-, tetraethyl ester (9CI) (CA INDEX NAME)



L38 ANSWER 6 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:472732 HCAPLUS

DOCUMENT NUMBER: 135:70119

TITLE: Preparation of (phosphonomethyl)diethylenetriamine derivative chelating compounds and their complexes with paramagnetic metals for use as MRI contrast agents.

INVENTOR(S): Franzini, Maurizio; Beltrami, Andrea; Calabi, Luisella; Maiocchi, Alessandro; Virtuani, Mario; Anelli, Pier Lucio; Ramalingam, Kondareddiar; Ranganathan, Ramachandran S.

PATENT ASSIGNEE(S): Bracco S.P.A., Italy

SOURCE: PCT Int. Appl., 72 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

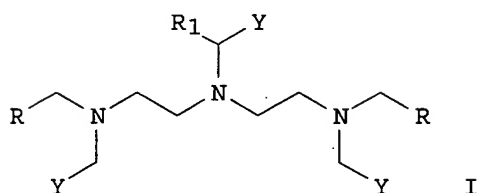
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001046207	A1	20010628	WO 2000-EP12977	20001220 <--
<p>W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM</p> <p>RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG</p>				

IT 1315263 B1 20030203 IT 1999-MI2656 19991221 <--
 EP 1155023 A1 20011121 EP 2000-990800 20001220 <--
 EP 1155023 B1 20050302
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO
 JP 2003518131 T2 20030603 JP 2001-547116 20001220
 US 2003013859 A1 20030116 US 2001-913711 20010924 <--
 US 6509324 B2 20030121
 PRIORITY APPLN. INFO.: IT 1999-MI2656 A 19991221
 WO 2000-EP12977 W 20001220
 OTHER SOURCE(S): CASREACT 135:70119; MARPAT 135:70119
 GI



AB The preparation of diethylenetriamine derivs. (I; Y = COOH or PO(OH)₂ with at least one Y = PO(OH)₂) able to chelate bi- and trivalent paramagnetic metal ions, their chelated complexes with said metal ions and the physiol. compatible salts is described. The use of these complexes as contrast agents for Magnetic Resonance Imaging (MRI) is claimed. Thus, Na₃[Gd{O₃PCH₂N{CH₂CH₂N(CH₂COO)₂}₂}] and related gadolinium complexes were prepared

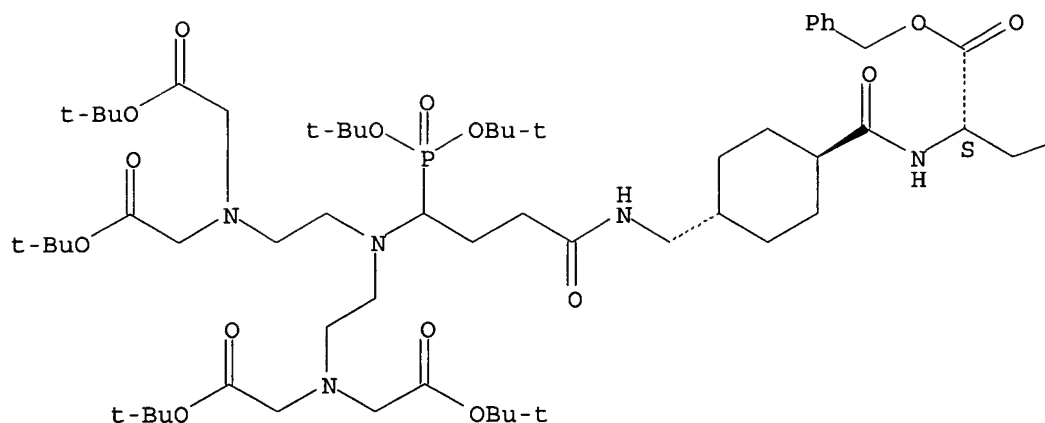
IT 345989-93-7P 345989-96-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (intermediate product in preparation of gadolinium (phosphonomethyl)diethylenetriamine derivative complexes for use as MRI contrast agents)

RN 345989-93-7 HCAPLUS

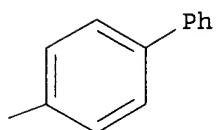
CN 3-Oxa-6,9,12-triazatetradecan-14-oic acid, 9-[4-[[[trans-4-[[[(1S)-1-([1,1'-biphenyl]-4-ylmethyl)-2-oxo-2-(phenylmethoxy)ethyl]amino]carbonyl]cyclohexyl]methyl]amino]-1-[bis(1,1-dimethylethoxy)phosphinyl]-4-oxobutyl]-6,12-bis[2-(1,1-dimethylethoxy)-2-oxoethyl]-2,2-dimethyl-4-oxo-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

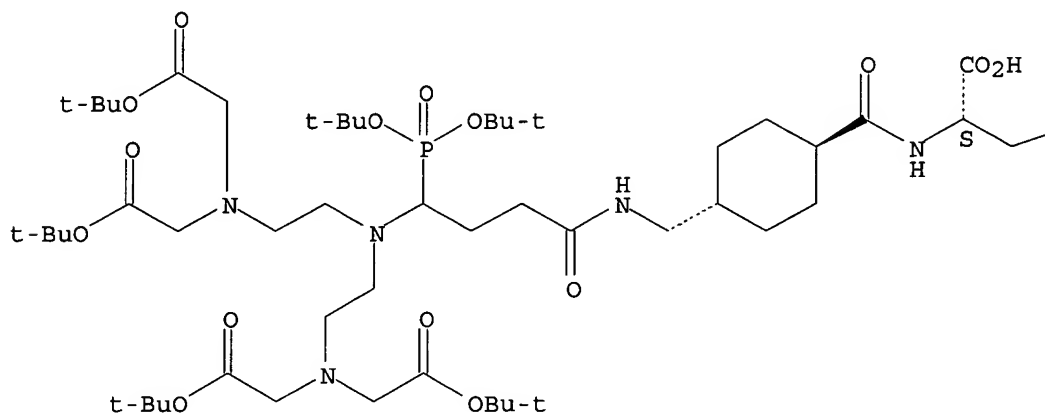


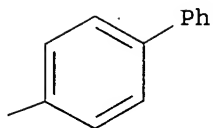
RN 345989-96-0 HCAPLUS

CN 3-Oxa-6,9,12-triazatetradecan-14-oic acid, 9-[4-[[[trans-4-[[[(1S)-2-[1,1'-biphenyl]-4-yl-1-carboxyethyl]amino]carbonyl]cyclohexyl]methyl]amino]-1-[bis(1,1-dimethylethoxy)phosphinyl]-4-oxobutyl]-6,12-bis[2-(1,1-dimethylethoxy)-2-oxoethyl]-2,2-dimethyl-4-oxo-, 14-(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

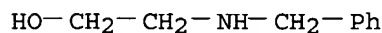
Absolute stereochemistry.

PAGE 1-A

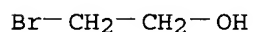




IT 104-63-2, 2-Benzylaminoethanol 540-51-2, 2-Bromoethanol
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reactant for preparation of gadolinium (phosphonomethyl)diethylenetriamine derivative complexes for use as MRI contrast agents)
 RN 104-63-2 HCAPLUS
 CN Ethanol, 2-[(phenylmethyl)amino]- (9CI) (CA INDEX NAME)



RN 540-51-2 HCAPLUS
 CN Ethanol, 2-bromo- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 7 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:271425 HCAPLUS

DOCUMENT NUMBER: 135:72672

TITLE: Catalytic pathways in the ethanolysis of fenitrothion, an **organophosphorothioate pesticide**. A dichotomy in the behaviour of crown/cryptand cation complexing agents

AUTHOR(S): Balakrishnan, Vimal K.; Dust, Julian M.; VanLoon, Gary W.; Buncel, Erwin

CORPORATE SOURCE: Department of Chemistry, Queen's University, Kingston, ON, K7L 3N6, Can.

SOURCE: Canadian Journal of Chemistry (2001), 79(2), 157-173

CODEN: CJCHAG; ISSN: 0008-4042

PUBLISHER: National Research Council of Canada

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 135:72672

AB The rates of displacement of 3-methyl-4-nitrophenoxide ion from the **pesticide**, fenitrothion, by alkali metal ethoxides in anhydrous ethanol were followed spectrophotometrically. Through product anal. expts., which included ³¹P NMR and GC-MS, as well as spectrophotometric anal., three reaction pathways were identified: nucleophilic attack at the phosphorus center, attack at the aliphatic carbon, and a minor S_NAr route (≤7%). Furthermore, a consecutive process was found to occur on the product of attack at the phosphorus center. For purposes of kinetic treatment, the processes at the aliphatic and aromatic carbon were combined (i.e., the minor S_NAr pathway was neglected), and the

observed reaction rate consts. were dissected into rate coeffs. for nucleophilic attack at phosphorus and at aliphatic carbon. Attack at phosphorus was found to be catalyzed by the alkali metal ethoxides in the order KOEt > NaOEt > LiOEt. Catalysis arises from alkali metal ethoxide aggregates in the base solns. used (0-1.8 M); treatment of the system as a mixture of free ethoxide, ion-paired metal ethoxide, and metal ethoxide dimers resulted in a good fit with the kinetic data. An unexpected dichotomy in the kinetic behavior of complexing agents (e.g., DC-18-crown-6, [2.2.2]cryptand) indicated that the dimers are more reactive than free ethoxide anions, which are in turn more reactive than ion-paired metal ethoxide. The observed relative order of reactivity is explained in the context of the Eisenman theory in which the free energy of association of the metal ion with the rate-determining transition state is largely determined by the solvent reorganization parameter. In contrast with displacement at the phosphorus center, attack at the aliphatic carbon was not found to be catalyzed by alkali metals. In this case, the free ethoxide anion was more reactive than either the ion-paired metal ethoxide or the dimeric aggregate. The differing effects of alkali metals on the two pathways is ascribed largely to the leaving group pKa. For carbon attack, the pKa value estimated for demethyl fenitrothion, 2.15, is sufficiently low that metal ions are not required to stabilize the rate-determining transition state. In contrast, for phosphorus attack, 3-methyl-4-nitrophenoxide, with a pKa of 7.15, requires stabilization by metal ion interactions. Hence, alkali metal ions catalyze attack at phosphorus, but not attack at the carbon centers.

IT 141-52-6, Sodium ethoxide 2388-07-0, Lithium ethoxide
 RL: CAT (Catalyst use); USES (Uses)
 (catalytic pathways in ethanolysis of fenitrothion **pesticide**
 and dichotomy in behavior of crown and cryptand cation complexing
 agents)
 RN 141-52-6 HCAPLUS
 CN Ethanol, sodium salt (9CI) (CA INDEX NAME)

$\text{H}_3\text{C}-\text{CH}_2-\text{OH}$

● Na

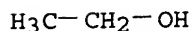
RN 2388-07-0 HCAPLUS
 CN Ethanol, lithium salt (9CI) (CA INDEX NAME)

$\text{H}_3\text{C}-\text{CH}_2-\text{OH}$

● Li

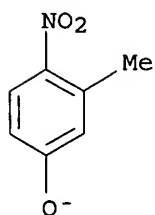
IT 917-58-8, Potassium ethoxide
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES
 (Uses)
 (catalytic pathways in ethanolysis of fenitrothion **pesticide**
 and dichotomy in behavior of crown and cryptand cation complexing
 agents)
 RN 917-58-8 HCAPLUS

CN Ethanol, potassium salt (9CI) (CA INDEX NAME)



● K

IT 119061-84-6, 3-Methyl-4-nitrophenolate
 RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
 (formation in ethanolysis of fenitrothion and preparation of)
 RN 119061-84-6 HCAPLUS
 CN Phenol, 3-methyl-4-nitro-, ion(1-) (9CI) (CA INDEX NAME)



REFERENCE COUNT: 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 8 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:353385 HCAPLUS

DOCUMENT NUMBER: 133:43100

TITLE: Reactivity of methoxide ion in concentrated
 methanolic solutions of Et₄NOCH₃ and Et₄NCl

AUTHOR(S): Savelova, V. A.; Belousova, I. A.; Simanenko, Yu. S.;
 Popov, A. F.

CORPORATE SOURCE: Litvinenko Institute of Physical Organic and Coal
 Chemistry, Ukrainian National Academy of Sciences,
 Donetsk, 340114, Ukraine

SOURCE: Russian Journal of Organic Chemistry (Translation of
 Zhurnal Organicheskoi Khimii) (1999),
 35(12), 1790-1796

CODEN: RJOCEQ; ISSN: 1070-4280

PUBLISHER: MAIK Nauka/Interperiodica Publishing

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Bimol. rate consts. *k* were determined for reactions of 4-O₂NC₆H₄OR [R =
 p-tosyl, P(O)(OEt)₂, P(O)(OEt)Et] with Et₄N⁺ -OMe (I) in MeOH at
 25° over a wide range of I concns., where the reagent acts
 simultaneously as electrolyte, and at [I] ≤ 0.1 M (reagent) with
 variation of Et₄N⁺ Cl⁻ (electrolyte) concentration The relation log *k* = log

*k*₀ +
 b[Et₄NX] is fulfilled up to [Et₄NX] = 3.5 M, indicating that the
 electrolyte affects the reaction rate via restructuring of MeOH as the
 reaction medium.

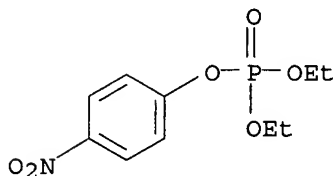
IT 67-56-1, Methanol, uses

RL: NUU (Other use, unclassified); USES (Uses)
 (reactivity of methoxide ion in concentrated methanolic solns. of
 tetraethylammonium methoxide and chloride)

RN 67-56-1 HCAPLUS
CN Methanol (8CI, 9CI) (CA INDEX NAME)

H₃C—OH

IT 311-45-5, Diethyl 4-nitrophenyl phosphate
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(reactivity of methoxide ion in concentrated methanolic solns. of
tetraethylammonium methoxide and chloride)
RN 311-45-5 HCAPLUS
CN Phosphoric acid, diethyl 4-nitrophenyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 9 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:84937 HCAPLUS

DOCUMENT NUMBER: 132:125327

TITLE: A process for producing biodiesel, lubricants, and
fuel and lubricant additives in a critical fluid
medium

INVENTOR(S): Ginosar, Daniel M.; Fox, Robert V.

PATENT ASSIGNEE(S): Lockheed Martin Idaho Technologies Company, USA

SOURCE: PCT Int. Appl., 16 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

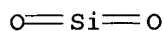
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000005327	A1	20000203	WO 1999-US16669	19990722 <--
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9952250	A1	20000214	AU 1999-52250	19990722 <--
US 6887283	B1	20050503	US 2000-554708	19990722
PRIORITY APPLN. INFO.:			US 1998-94076P	P 19980724
			WO 1999-US16669	W 19990722

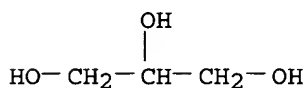
AB A process for producing alkyl esters, useful in biofuels and lubricants,
is conducted by transesterifying glycerides or esterifying free fatty

acids in a single critical phase medium for increased reaction rates, decreased loss of catalyst or catalyst activity and improved overall yield of desired product. Glycerides or free fatty acids in animal fats, vegetable oils, rendered fats, and restaurant grease are mixed with an alc. stream or water stream and dissolved in a critical fluid medium, reacting the mixture in a reactor over either a solid or liquid acidic or basic catalyst. The product stream is separated from the critical fluid medium in a separator, where the critical fluid medium can be recycled to the process.

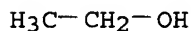
IT 7631-86-9, Silica, uses
 RL: CAT (Catalyst use); USES (Uses)
 (production of biodiesel, biofuels, lubricants and lubricant additives in critical fluid reaction medium)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



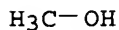
IT 56-81-5P, Glycerol, preparation
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
 (production of biodiesel, biofuels, lubricants and lubricant additives in critical fluid reaction medium)
 RN 56-81-5 HCAPLUS
 CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



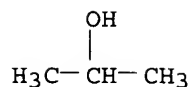
IT 64-17-5, Ethanol, reactions 67-56-1, Methanol, reactions 67-63-0, Isopropanol, reactions 71-23-8, n-Propanol, reactions 71-36-3, n-Butanol, reactions 78-83-1, Isobutanol, reactions
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
 (production of biodiesel, biofuels, lubricants and lubricant additives in critical fluid reaction medium)
 RN 64-17-5 HCAPLUS
 CN Ethanol (9CI) (CA INDEX NAME)



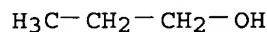
RN 67-56-1 HCAPLUS
 CN Methanol (8CI, 9CI) (CA INDEX NAME)



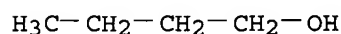
RN 67-63-0 HCAPLUS
 CN 2-Propanol (9CI) (CA INDEX NAME)



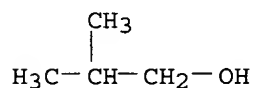
RN 71-23-8 HCAPLUS
CN 1-Propanol (9CI) (CA INDEX NAME)



RN 71-36-3 HCAPLUS
CN 1-Butanol (9CI) (CA INDEX NAME)



RN 78-83-1 HCAPLUS
CN 1-Propanol, 2-methyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 10 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:464071 HCAPLUS

DOCUMENT NUMBER: 131:99275

TITLE: A process for immobilization of enzymes

INVENTOR(S): Christensen, Morten Wurtz; Kirk, Ole; Pedersen, Christian

PATENT ASSIGNEE(S): Novo Nordisk A/S, Den.

SOURCE: PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9933964	A1	19990708	WO 1998-DK554	19981216 <--
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
US 6156548	A	20001205	US 1998-210192	19981211 <--
AU 9915566	A1	19990719	AU 1999-15566	19981216 <--
EP 1042458	A1	20001011	EP 1998-959787	19981216 <--
EP 1042458	B1	20031112		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI
 JP 2002500007 T2 20020108 JP 2000-526622 19981216 <--
 AT 254170 E 20031115 AT 1998-959787 19981216
 US 6582942 B1 20030624 US 2000-649942 20000829
 US 2003203457 A1 20031030 US 2003-434958 20030509
 PRIORITY APPLN. INFO.: DK 1997-1527 A 19971223
 US 1998-74189P P 19980210
 US 1998-210192 A3 19981211
 WO 1998-DK554 W 19981216
 US 2000-649942 A3 20000829
 AB The invention relates to a process for producing an immobilized enzyme preparation for use in a mainly organic medium devoid of free water comprising using a fluid bed. The invention provides a method for using the immobilized enzyme preparation for organic synthesis. Immobilization of lipase and trans-esterification of triglycerides by the immobilized enzyme in organic solvents is described.
 IT 7631-86-9, Silica, uses
 RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (process for immobilization of lipase and other enzymes and applications of immobilized lipase)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 11 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:272350 HCAPLUS

DOCUMENT NUMBER: 131:118210

TITLE: Development of **Methanol** Decomposition Catalysts for Production of H₂ and CO

AUTHOR(S): Cheng, Wu-Hsun

CORPORATE SOURCE: Department of Chemical Engineering, Chang Gung University, Kweishan Taoyuan, Taiwan

SOURCE: Accounts of Chemical Research (1999), 32(8), 685-691

CODEN: ACHRE4; ISSN: 0001-4842

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Although Cu/Cr-based catalysts are much more active than conventional Cu/Zn catalysts in MeOH decomposition to H₂ and CO, their acidic nature can be greatly reduced by passivating the catalysts with alkali **metal ions** (e.g., K⁺). A series of promoters to further enhance catalyst activity were found for Cu-based MeOH decomposition catalysts, including SiO₂, alkali **metal ions**, and oxides of Mn and Ba. Also, cofeeding CO₂ with MeOH can significantly enhance the stability of Cu-based catalysts by retarding both Cu sintering and carbon deposition. The catalysts have application in MeOH decomposition as a method an in-situ route to gas turbine fuel and on-site generation of CO and H₂.

IT 67-56-1, **Methanol**, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(decomposition of; development of Cu/Cr-based catalysts for **methanol** decomposition to hydrogen and carbon monoxide)

RN 67-56-1 HCAPLUS

CN Methanol (8CI, 9CI) (CA INDEX NAME)

H₃C—OH

IT 7631-86-9, Silica, uses
 RL: CAT (Catalyst use); USES (Uses)
 (promoters, catalysts containing; development of Cu/Cr-based catalysts for
methanol decomposition to hydrogen and carbon monoxide)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 12 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:615383 HCAPLUS

DOCUMENT NUMBER: 127:282699

TITLE: NO sorption and decomposition by silica supported
 tungstophosphoric acid

AUTHOR(S): McCormick, R. L.; Boonrueng, S. K.; Herring, A. M.;
 Graboski, M. S.

CORPORATE SOURCE: Dep. Chem. Eng. Pet. Refining., Colorado Sch. Mines,
 Golden, CO, 80401-1887, USA

SOURCE: Preprints - American Chemical Society, Division of
 Petroleum Chemistry (1997), 42(4), 791-794
 CODEN: ACPCAT; ISSN: 0569-3799

PUBLISHER: American Chemical Society, Division of Petroleum
 Chemistry

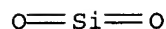
DOCUMENT TYPE: Journal

LANGUAGE: English

AB The heteropoly acids (HPA) are unique catalytic materials in that they are
 very strong acids, catalyze oxidation reactions, and most importantly absorb
 polar mols. into their bulk structure. The primary structural unit of HPA
 is the heteropoly anion. These can be viewed as forming from condensation
 of six or more oxanions (of W, Mo, or V, for example) around the oxoanion
 of a heteroatom. For tungstophosphoric acid (H₃PW₁₂O₄₀ or HPW): 12WO₄²⁻ +
 HPOO₄²⁻ + 23H⁺ → (PW₁₂O₄₀)³⁻ + 12H₂O. The synthesis and structure
 of a wide variety of heteropoly compds. has been extensively reviewed.
 The most poorly understood aspect of heteropoly compound structure is how
 the heteropoly anions are linked together in the solid state to form the
 so-called secondary structure. HPA are typically hydrated in the presence
 of water. The hydration water can be replaced by polar polar mols. such
 as **alcs.**, ethers, or amines, and the protons can be replaced by
metal ions and other cations. The most interesting
 sorption and catalytic properties of the HPA are associated with the
 phenomenon of absorption of polar mols. into the bulk structure as
 protonated or cationic species. The lattice parameter changes as a result
 of replacing the water by the absorbed species. Because of the flexible
 nature of the secondary structure it has been referred to as a
 "pseudoliquid phase".

IT 7631-86-9, Silica, reactions
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES
 (Uses)
 (NO sorption and **decomposition** by silica supported

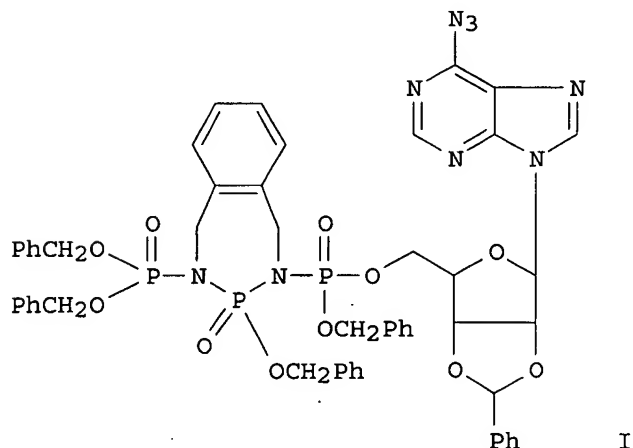
tungstophosphoric acid)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 13 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1996:231383 HCAPLUS
 DOCUMENT NUMBER: 124:289881
 TITLE: Preparation of diphosphate and triphosphate
 non-hydrolyzable stable compounds
 INVENTOR(S): Lebeau, Luc; Mioskowski, Charles; Saady, Mourad
 PATENT ASSIGNEE(S): Centre National de la Recherche Scientifique, Fr.
 SOURCE: PCT Int. Appl., 135 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9600733	A1	19960111	WO 1995-FR871	19950629 <--
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
FR 2721929	A1	19960105	FR 1994-8091	19940630 <--
FR 2721929	B1	19961220		
PRIORITY APPLN. INFO.:			FR 1994-8091	A 19940630
OTHER SOURCE(S):			CASREACT 124:289881; MARPAT 124:289881	
GI				



AB A number of methods are claimed for the preparation of diphosphate or triphosphate nonhydrolyzable stable analogs (R1O) (R2O) P(O) X1 [P(O) (OR3) X2] n P(O) (OR4) (X3R 5) (R1, R2, R3, R4 and R5 = hydrocarbon group, an aryl group, a quaternary

ammonium group or a **metal ion**, R5 can also be a nucleoside derivative; X1 and X2 = CH2, CHF, CF2, CCl2, CHCl or NR6 (R6 = H, alkyl, aryl or aralkyl); X3 = O, S, NH; n = 0 or 1), e.g.

(PhCH2O)2P(O)CH2P(O)(OCH2Ph)CH2P(O)(OMe)(OCH2Ph) and I. Thus, an (R'10)(R'20)P(O)X1[P(O)(OR'3)X2]nP(O)(OR'4)(OR) (R = Me, Bn; Bn = benzyl or alkyl-substituted benzyl) is prepared and monodeprotected (Bn conversion to H, metal or quaternary ammonium) and the resulting compound is reacted with R5X3H or nucleoside derivs. (R'10)(R'20)P(O)CH2P(O)(OR'3)CH2P(O)(OR'4)(OMe) were prepared by the following successive steps: (XCH2)2P(O)(OR'3)(X = halogen) + (R'10)P(OR'2)(OBn) = (R'10)(R'20)P(O)CH2P(O)(OR'3)(CH2X); (R'10)(R'20)P(O)CH2P(O)(OR'3)(CH2X) + (R'40)(BnO)(MeO)P. (R'10)(R'20)P(O)CH2P(O)(OR'4)(OR) (R = Bn, Me) were prepared from (R'10)(R'20)P(O)(CH2X) and (BnO)(RO)P(OR'4). (R'10)(R'20)P(O)NR6P(O)(OR'3)NR6P(O)(OR'4)(OR) (R = Me, Bn; the 2 R6 form a hydrocarbon chain) were prepared by 1st combining (R'10)(R'20)P(O)Cl, (R'40)(BnO)P(O)Cl and a diamine; cyclizing the phosphoramidate with Cl2P(OR'3); and then oxidizing the cyclic compound. The preparation of (R'10)(R'20)P(O)NHP(O)(OR'4)(OR) involved reaction of Cl3P:NP(O)Cl2 and BnOH. (R'10)(R'20)P(O)CH2P(O)(OR'3)NR6P(O)(OR'4)(OBn) were prepared from (R'10)(R'20)P(O)Me and an analog of Cl(R3O)P(O)NR6P(O)(OR4)(OBn). If the primed substituents are not the same as R1-R4, then addnl. deprotection/reactions with R5X3H are used. The compds. are intended for pharmaceutical, biol. and therapeutic use (no data).

IT 100-51-6, **Benzenemethanol**, reactions 100-79-8,

Isopropylidene glycerol 3835-64-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(for preparation of diphosphate and triphosphate non-hydrolyzable stable compds.)

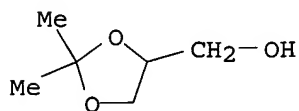
RN 100-51-6 HCAPLUS

CN Benzenemethanol (9CI) (CA INDEX NAME)

HO-CH2-Ph

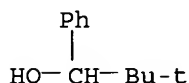
RN 100-79-8 HCAPLUS

CN 1,3-Dioxolane-4-methanol, 2,2-dimethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 3835-64-1 HCAPLUS

CN Benzenemethanol, α-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



IT 175425-25-9P

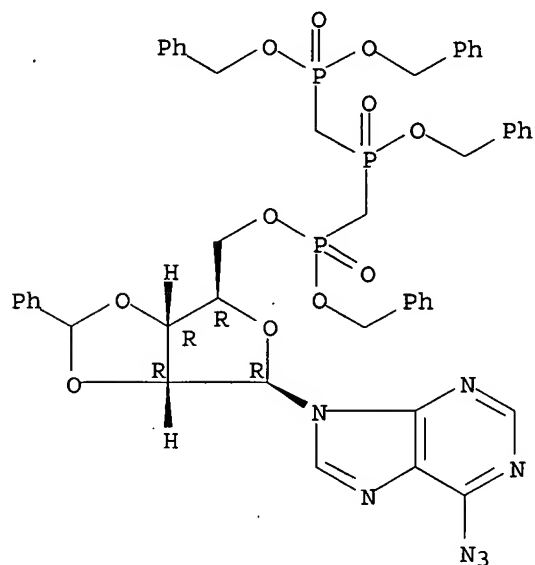
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and debenzilation)

RN 175425-25-9 HCAPLUS

CN 9H-Purine, 6-azido-9-[2,3-O-(phenylmethylene)-5-O-[1,3,5-trioxido-7-phenyl-1,3,5-tris(phenylmethoxy)-6-oxa-1,3,5-triphosphahept-1-yl]-β-D-ribofuranosyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 175425-33-9P

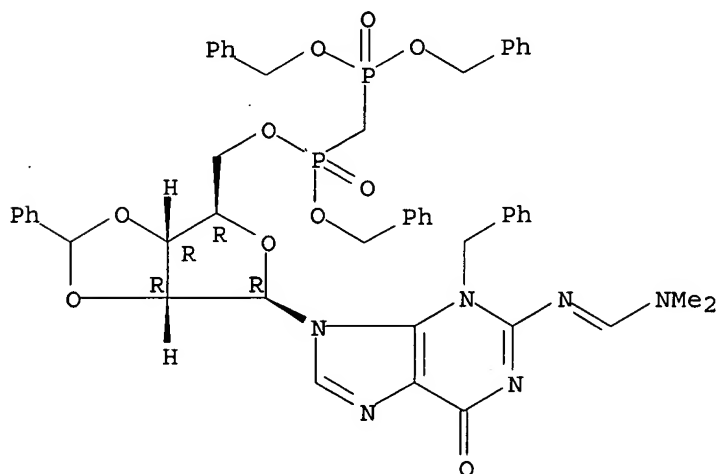
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and debenzoylation at oxygen)

RN 175425-33-9 HCAPLUS

CN Guanosine, N-[(dimethylamino)methylene]-3-(phenylmethyl)-2',3'-O-(phenylmethylene)-, 5'-[phenylmethyl [[bis(phenylmethoxy)phosphinyl]methyl]phosphonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry unknown.



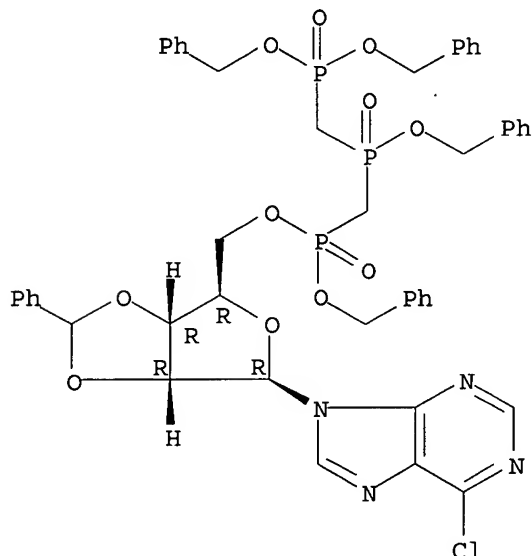
IT 169051-84-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 169051-84-7 HCAPLUS

CN 9H-Purine, 6-chloro-9-[2,3-O-(phenylmethylene)-5-O-[1,3,5-trioxido-7-phenyl-1,3,5-tris(phenylmethoxy)-6-oxa-1,3,5-triphosphahept-1-yl]-β-D-ribofuranosyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L38 ANSWER 14 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:171896 HCAPLUS

DOCUMENT NUMBER: 124:220474

TITLE: Preparation of di- and triphosphate nucleoside analog
conjugates useful for immunoassay of antiviral
phosphorylated metabolites of antiviral agents
INVENTOR(S): Creminon, Christophe; Grassi, Jacques; Pradelles,
Philippe; Mioskowski, Charles; Lebeau, Luc; Saady,
Mourad

PATENT ASSIGNEE(S): Commissariat a l'Energie Atomique, Fr.; Centre
National de la Recherche Scientifique

SOURCE: PCT Int. Appl., 77 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9600585	A1	19960111	WO 1995-FR872	19950629 <--
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
FR 2721931	A1	19960105	FR 1994-8096	19940630 <--
FR 2721931	B1	19960802		

PRIORITY APPLN. INFO.: FR 1994-8096 A 19940630

OTHER SOURCE(S): MARPAT 124:220474

AB The invention concerns diphosphate or triphosphate analog conjugates with

antigenic enzymes or carriers and an immunoassay using such conjugates. The disphosphate or triphosphate analog is $R1OP(O)(OR2)X1[P(O)(OR3)X2]nP(O)(OR4)OR5$ [$n = 0, 1$; $X1, X2 = CH_2, CHF, CF_2, CCl_2, CHCl$, NR_6 ($R_6 = H$, alkyl, aryl, aralkyl); $R1-R4 = H, NH_4^+$, quaternary ammonium ion, $M+1/v$ ($M = \text{metal}$; $v = \text{valence of metal}$); $R_5 = \text{nucleoside-derived group; with provisions}$], which is linked to the antigenic enzyme or carrier either by the nucleoside-derived R_5 group, or by one of $R1-R4$. Such conjugated compds. are useful for assaying antiviral phosphorylated metabolites of antiviral agents (e.g. AZT).

IT 100-51-6, Benzyl alcohol, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(di- and triphosphate nucleoside analog conjugates, and preparation thereof, for immunoassay of antiviral phosphorylated metabolites of antiviral agents)

RN 100-51-6 HCAPLUS

CN Benzenemethanol (9CI) (CA INDEX NAME)

$HO-CH_2-Ph$

IT 169051-84-7P 174571-49-4P 174571-56-3P

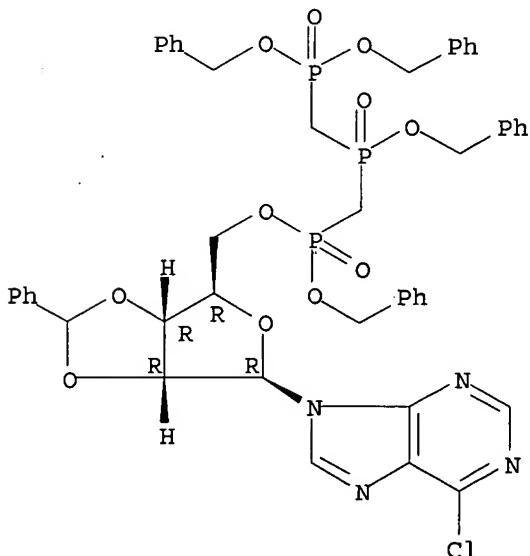
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(di- and triphosphate nucleoside analog conjugates, and preparation thereof, for immunoassay of antiviral phosphorylated metabolites of antiviral agents)

RN 169051-84-7 HCAPLUS

CN 9H-Purine, 6-chloro-9-[2,3-O-(phenylmethylene)-5-O-[1,3,5-trioxido-7-phenyl-1,3,5-tris(phenylmethoxy)-6-oxa-1,3,5-triphosphahept-1-yl]- β -D-ribofuranosyl]- (9CI) (CA INDEX NAME)

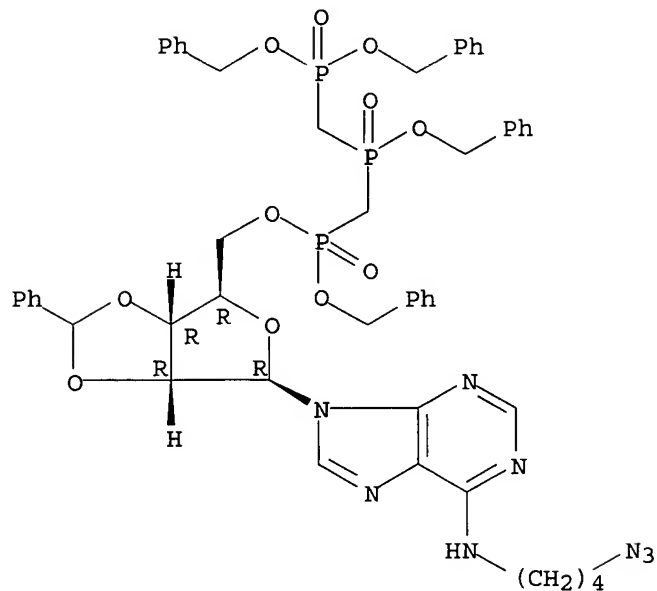
Absolute stereochemistry.



RN 174571-49-4 HCAPLUS

CN Adenosine, N-(4-azidobutyl)-2',3'-O-(phenylmethylene)-, 5'-[phenylmethyl [[[bis(phenylmethoxy)phosphinyl]methyl] (phenylmethoxy)phosphinyl]methyl]p hosphonate] (9CI) (CA INDEX NAME)

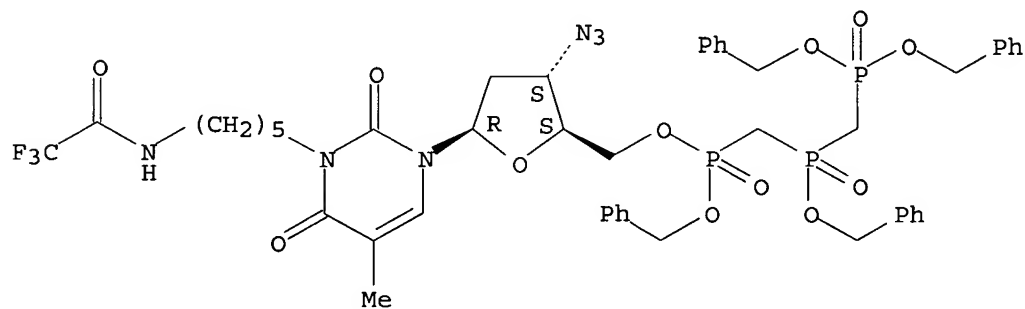
Absolute stereochemistry.



RN 174571-56-3 HCAPLUS

CN Thymidine, 3'-azido-3'-deoxy-3-[5-[(trifluoroacetyl)amino]pentyl]-, 5'-[phenylmethyl [[[bis(phenylmethoxy)phosphinyl]methyl] (phenylmethoxy)phosphinyl]methyl]phosphonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



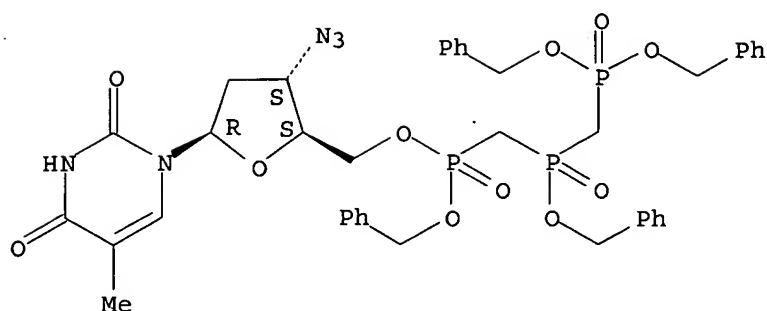
IT 174571-51-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(di- and triphosphate nucleoside analog conjugates, and preparation thereof,
for immunoassay of antiviral phosphorylated metabolites of antiviral
agents)

RN 174571-51-8 HCAPLUS

CN Thymidine, 3'-azido-3'-deoxy-, 5'-[phenylmethyl [[[bis(phenylmethoxy)phosphinyl]methyl] (phenylmethoxy)phosphinyl]methyl]phosphonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L38 ANSWER 15 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:167619 HCAPLUS

DOCUMENT NUMBER: 124:210885

TITLE: Composition for fast decomposition of cesspool
wastewaters

INVENTOR(S): Bodrossy Bibo, Lenke; Frankow, Terezia

PATENT ASSIGNEE(S): Hung.

SOURCE: Hung. Teljes, 13 pp.

CODEN: HUXXB

DOCUMENT TYPE: Patent

LANGUAGE: Hungarian

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
HU 69530	A2	19950928	HU 1990-4197	19900713 <--
PRIORITY APPLN. INFO.:			HU 1990-4197	19900713

AB Fast decomposition of wastewaters from cesspools is carried out with a chemical agent containing carbonates of alkaline earth metals 50-70, Selectron B2 1-3, hexamethylene tetramin 2-6, carbamide-formaldehyde or melamin-formaldehyde resin 2-7, SiO₂ with high sp. surface 2-6, C2-6 aliphatic dicarboxylic acid substituted by hydroxyl groups 2-6, urea 1-3, surfactant 1-3, alc . fermentation microorganisms 1-3, and Cu oxalate 1-12%. The advantages are related to shortening the decomposition time of cesspool wastewaters to maximum 2

wk and decreasing the environment pollution by cesspool components.

IT 7631-86-9, Aerosil, processes

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(component of chemical agent for fast decomposition of cesspool wastewaters)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

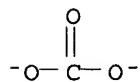
IT 3812-32-6, Carbonate, processes

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(rare earth metal-containing; component of chemical agent for fast decomposition of cesspool wastewaters)

RN 3812-32-6 HCAPLUS

CN Carbonate (8CI, 9CI) (CA INDEX NAME)



L38 ANSWER 16 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:19245 HCAPLUS

DOCUMENT NUMBER: 124:202401

TITLE: Lipase-catalyzed kinetic resolution of
cis-1-diethylphosphonomethyl-2-
hydroxymethylcyclohexane. Application to
enantioselective synthesis of 1-diethylphosphonomethyl-
2-(5'-hydantoinyl)cyclohexane

AUTHOR(S): Yokomatsu, Tsutomu; Nakabayashi, Nobuko; Matsumoto,
Keita; Shibuya, Shiroshi

CORPORATE SOURCE: School of Pharmacy, Tokyo University of Pharmacy Life
Science, Tokyo, 192-03, Japan

SOURCE: Tetrahedron: Asymmetry (1995), 6(12),
3055-62

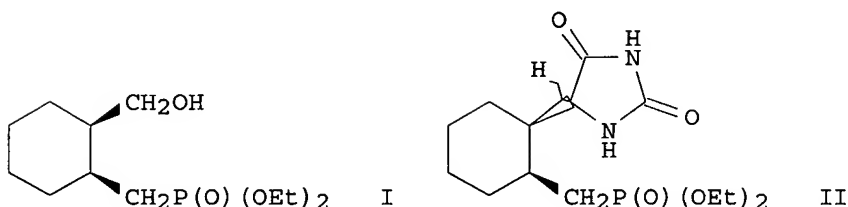
CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB A kinetic resolution of cis-1-diethylphosphonomethyl-2-hydroxymethylcyclohexane 1 by lipase was developed. The transesterification of (+)-1 with vinyl acetate in the presence of Lipase AK without solvent proceeded to give (+)-1 (shown as I) and the corresponding acetate (+)-5 in good yield and high enantiomeric ratio. The **alc.** (+)-1 was transformed to optically active hydantoins, possible intermediates for the synthesis of conformationally constrained analogs of AP-5. The structures of the racemic hydantoins II were determined by x-ray crystallog.

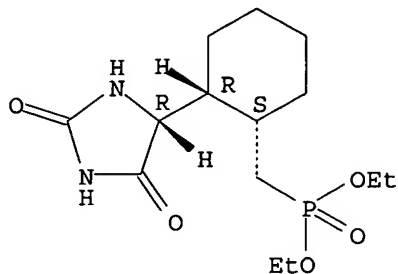
IT 174291-46-4P 174291-47-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(crystal structure; preparation of racemic hydantoin derivs. of
(diethylphosphonomethyl) (hydroxymethyl) cyclohexane)

RN 174291-46-4 HCAPLUS

CN Phosphonic acid, [[2-(2,5-dioxo-4-imidazolidinyl)cyclohexyl]methyl]-,
diethyl ester, [1 α ,2 α (S*)]- (9CI) (CA INDEX NAME)

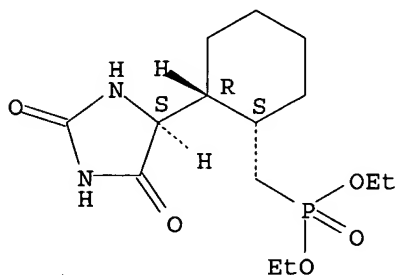
Relative stereochemistry.



RN 174291-47-5 HCAPLUS

CN Phosphonic acid, [[2-(2,5-dioxo-4-imidazolidinyl)cyclohexyl]methyl]-, diethyl ester, [1 α ,2 α (R*)]]- (9CI) (CA INDEX NAME)

Relative stereochemistry.



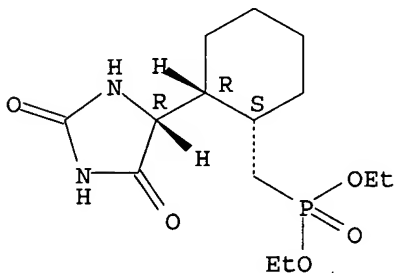
IT 174152-20-6P 174291-45-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(lipase-catalyzed resolution of (diethylphosphonomethyl)(hydroxymethyl)cyclohexane and subsequent conversion to hydantoin derivs.)

RN 174152-20-6 HCAPLUS

CN Phosphonic acid, [[2-(2,5-dioxo-4-imidazolidinyl)cyclohexyl]methyl]-, diethyl ester, [1S-[1 α ,2 α (S*)]]- (9CI) (CA INDEX NAME)

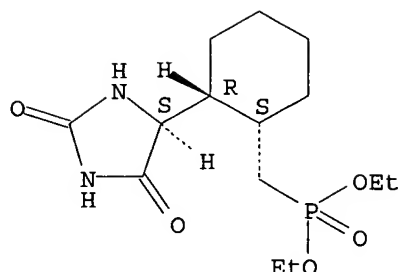
Absolute stereochemistry. Rotation (+).



RN 174291-45-3 HCAPLUS

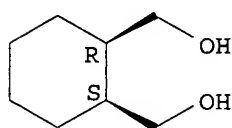
CN Phosphonic acid, [[2-(2,5-dioxo-4-imidazolidinyl)cyclohexyl]methyl]-, diethyl ester, [1S-[1 α ,2 α (R*)]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



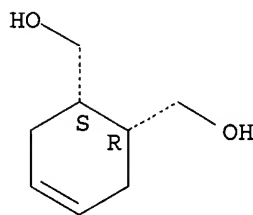
IT 15753-50-1, cis-1,2-Bis(hydroxymethyl)cyclohexane
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of (diethylphosphonomethyl)(hydroxymethyl)cyclohexane)
 RN 15753-50-1 HCAPLUS
 CN 1,2-Cyclohexanedimethanol, (1R,2S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



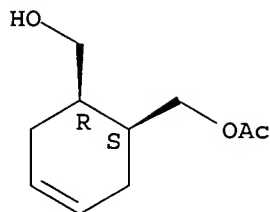
IT 20141-17-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of chiral acetate of (diethylphosphonomethyl)(hydroxymethyl)cyclohexane)
 RN 20141-17-7 HCAPLUS
 CN 4-Cyclohexene-1,2-dimethanol, (1R,2S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



IT 98516-10-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of chiral acetate of (diethylphosphonomethyl)(hydroxymethyl)cyclohexane)
 RN 98516-10-0 HCAPLUS
 CN 4-Cyclohexene-1,2-dimethanol, monoacetate, (1S-cis)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L38 ANSWER 17 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1995:538237 HCAPLUS
 DOCUMENT NUMBER: 122:291449
 TITLE: Preparation of mononucleotide analogs.
 INVENTOR(S): Baxter, Anthony David; Baylis, Eric Keith;
 Collingwood, Stephen Paul; Taylor, Roger John; De
 Mesmaeker, Alain; Schmit, Chantal
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
 SOURCE: Eur. Pat. Appl., 58 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 614906	A1	19940914	EP 1994-301441	19940301 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, IE, IT, LI, LU, NL, PT, SE				
US 5508270	A	19960416	US 1994-203962	19940228 <--
CA 2117014	AA	19940907	CA 1994-2117014	19940304 <--
AU 9457598	A1	19940908	AU 1994-57598	19940304 <--
AU 676529	B2	19970313		
ZA 9401528	A	19940919	ZA 1994-1528	19940304 <--
JP 07309885	A2	19951128	JP 1994-58326	19940304 <--
PRIORITY APPLN. INFO.:			GB 1993-4620	A 19930306
OTHER SOURCE(S):		CASREACT 122:291449; MARPAT 122:291449		
GI				

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

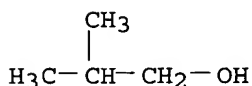
AB Title compds. [I; R1 = H, protecting group; R2 = H, C1-8 alipharyl, C6-15 aryl, C3-8 cycloalipharyl, C7-13 aralipharyl, alkali metal ion, ammonium ion; R3, R4 = H, halo, OH; R5 = (substituted) C6-10 aryloxythiocarbonyloxy, R5a; R5a = H, F, Cl, OH, OR8, O2CR8, trihydrocarbylsilyloxy; R6 = H, C1-10 alipharyl, C6-15 aryl, C7-16 aralipharyl, COR9, SO2R9, trihydrocarbylsilyl; R7 = monovalent nucleoside base, OH, OR8 or O2CR8; R8, R9 = C1-10 alipharyl, C3-8 cycloalipharyl, C6-15 aryl, C7-16 aralipharyl; R5R6O or R5R7 = isopropylidenedioxy; provided that when R5R7 = isopropylidenedioxy, R1 R2, R3, R4, and R6 are not all H], were prepared as intermediates for oligonucleotide analogs useful in antisense probes and as potential virucides (no data). Thus, MeC(OEt)2P(O)(OEt)Me in THF at -78° was treated sequentially with BuLi, BF3.Et2O, and 1-(3,5-anhydro-β-D-threo-pentofuranosyl)thymine in THF followed by stirring at -78° to give compound (II). II was

stirred with di-Et azodicarboxylate, Ph₃P, and PhCO₂H in PhMe/THF to give compound (III). III in EtOH/CHCl₃ was treated with Me₃SiCl overnight to give title compound (IV).

IT 78-83-1, Isobutanol, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of mononucleotide analogs)

RN 78-83-1 HCAPLUS

CN 1-Propanol, 2-methyl- (9CI) (CA INDEX NAME)



IT 160684-19-5P 160684-20-8P 162880-46-8P
 162880-47-9P 162880-48-0P 162880-49-1P
 162880-59-3P 162880-61-7P 162880-72-0P
 162880-73-1P 162880-74-2P 162880-75-3P
 162880-78-6P 162880-81-1P 162880-92-4P
 162880-93-5P 162880-97-9P 162881-05-2P
 162881-06-3P 162881-07-4P 162881-12-1P
 162881-16-5P

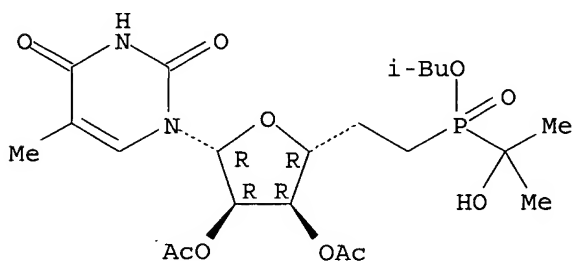
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)

(preparation of mononucleotide analogs)

RN 160684-19-5 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,3-di-O-acetyl-5,6-dideoxy-6-[(1-hydroxy-1-methylethyl)(2-methylpropoxy)phosphinyl]-β-D-ribo-hexofuranosyl]-5-methyl- (9CI) (CA INDEX NAME)

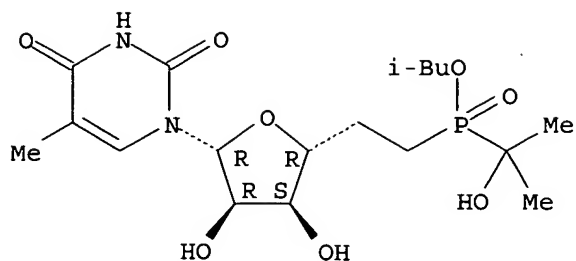
Absolute stereochemistry.



RN 160684-20-8 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 1-[5,6-dideoxy-6-[(1-hydroxy-1-methylethyl)(2-methylpropoxy)phosphinyl]-β-D-ribo-hexofuranosyl]-5-methyl- (9CI)
 (CA INDEX NAME)

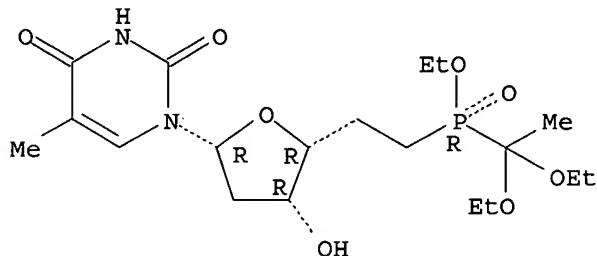
Absolute stereochemistry.



RN 162880-46-8 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-1-[2,5,6-trideoxy-6-[(1,1-diethoxyethyl)ethoxyphosphinyl]-β-D-threo-hexofuranosyl]-, (R)- (9CI)
(CA INDEX NAME)

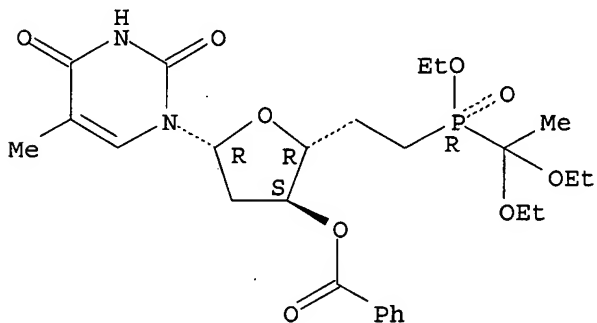
Absolute stereochemistry.



RN 162880-47-9 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 1-[3-O-benzoyl-2,5,6-trideoxy-6-[(1,1-diethoxyethyl)ethoxyphosphinyl]-β-D-erythro-hexofuranosyl]-5-methyl-, (R)- (9CI) (CA INDEX NAME)

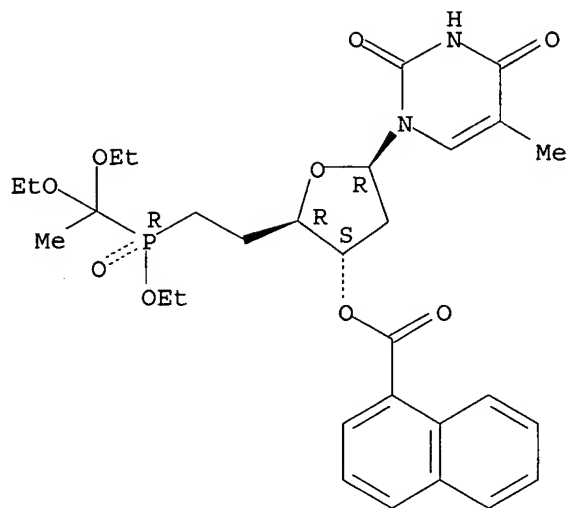
Absolute stereochemistry.



RN 162880-48-0 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-1-[2,5,6-trideoxy-6-[(1,1-diethoxyethyl)ethoxyphosphinyl]-3-O-(1-naphthalenylcarbonyl)-β-D-erythro-hexofuranosyl]-, (R)- (9CI) (CA INDEX NAME)

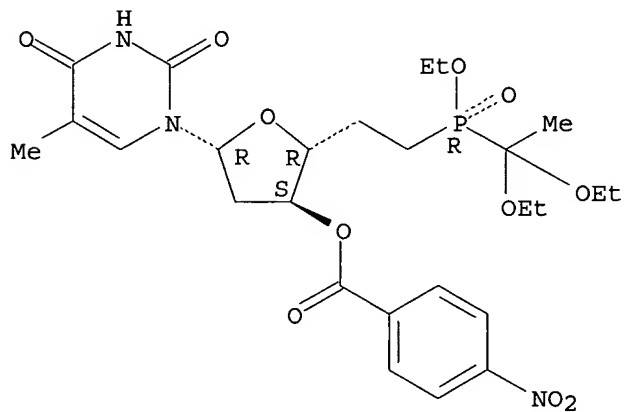
Absolute stereochemistry.



RN 162880-49-1 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-1-[2,5,6-trideoxy-6-[(1,1-diethoxyethyl)ethoxyphosphinyl]-3-O-(4-nitrobenzoyl)-β-D-erythro-hexofuranosyl]-, (R)- (9CI) (CA INDEX NAME)

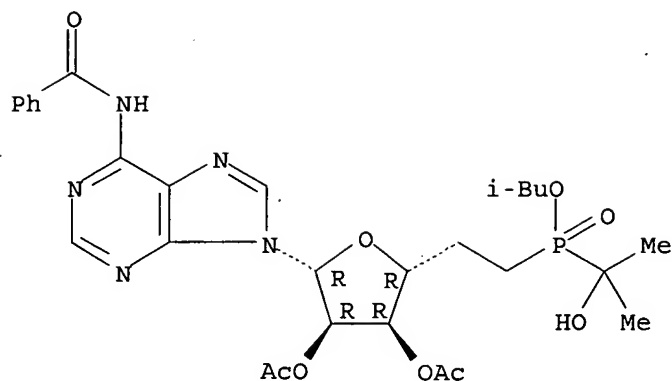
Absolute stereochemistry.



RN 162880-59-3 HCAPLUS

CN Benzamide, N-[9-[2,3-di-O-acetyl-5,6-dideoxy-6-[(1-hydroxy-1-methylethyl)(2-methylpropoxy)phosphinyl]-β-D-ribo-hexofuranosyl]-9H-purin-6-yl]- (9CI) (CA INDEX NAME)

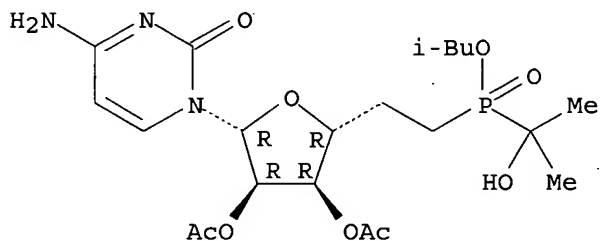
Absolute stereochemistry.



RN 162880-61-7 HCAPLUS

CN 2(1H)-Pyrimidinone, 4-amino-1-[2,3-di-O-acetyl-5,6-dideoxy-6-[(1-hydroxy-1-methylethyl)(2-methylpropoxy)phosphinyl]-β-D-ribo-hexofuranosyl]- (9CI) (CA INDEX NAME)

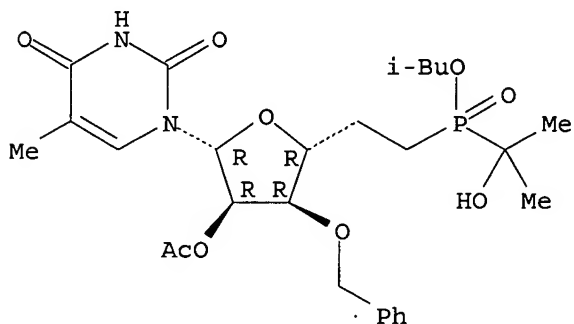
Absolute stereochemistry.



RN 162880-72-0 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 1-[2-O-acetyl-5,6-dideoxy-6-[(1-hydroxy-1-methylethyl)(2-methylpropoxy)phosphinyl]-3-O-(phenylmethyl)-β-D-ribo-hexofuranosyl]-5-methyl- (9CI) (CA INDEX NAME)

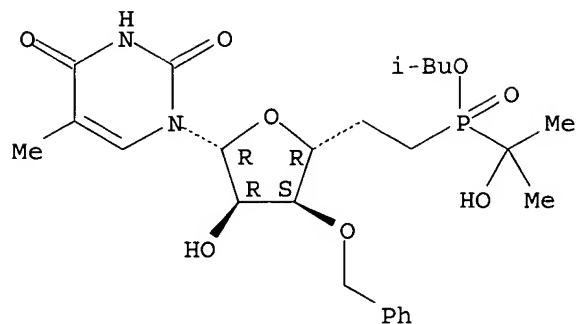
Absolute stereochemistry.



RN 162880-73-1 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 1-[5,6-dideoxy-6-[(1-hydroxy-1-methylethyl)(2-methylpropoxy)phosphinyl]-3-O-(phenylmethyl)-β-D-ribo-hexofuranosyl]-5-methyl- (9CI) (CA INDEX NAME)

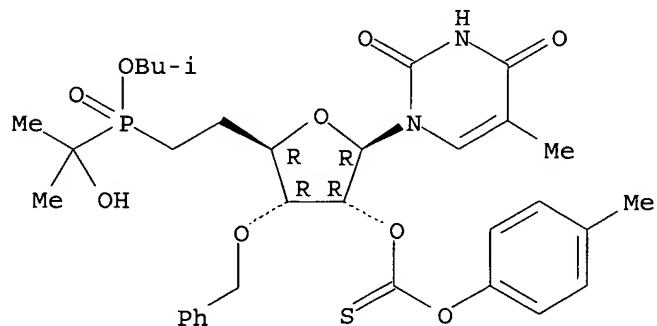
Absolute stereochemistry.



RN 162880-74-2 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 1-[5,6-dideoxy-6-[(1-hydroxy-1-methylethyl)(2-methylpropoxy)phosphinyl]-2-O-[(4-methylphenoxy)thioxomethyl]-3-O-(phenylmethyl)-β-D-ribo-hexofuranosyl]-5-methyl- (9CI) (CA INDEX NAME)

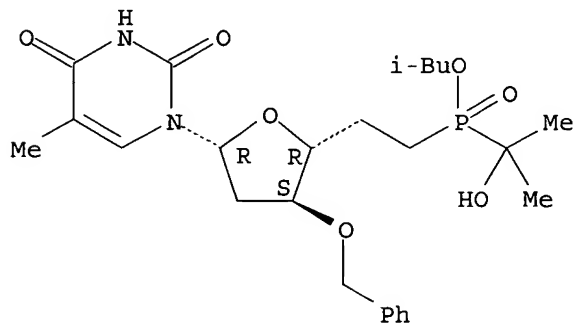
Absolute stereochemistry.



RN 162880-75-3 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-1-[2,5,6-trideoxy-6-[(1-hydroxy-1-methylethyl)(2-methylpropoxy)phosphinyl]-3-O-(phenylmethyl)-β-D-erythro-hexofuranosyl]- (9CI) (CA INDEX NAME)

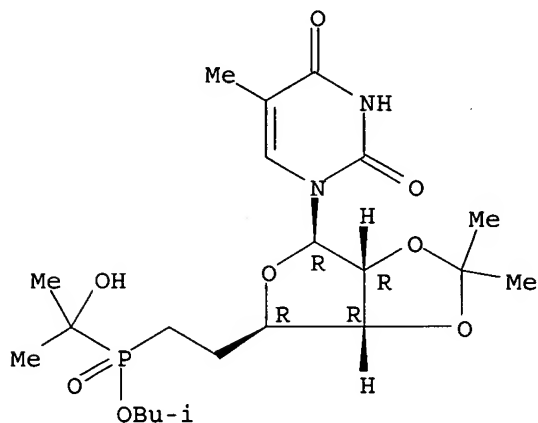
Absolute stereochemistry.



RN 162880-78-6 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 1-[5,6-dideoxy-6-[(1-hydroxy-1-methylethyl)(2-methylpropoxy)phosphinyl]-2,3-O-(1-methylethylidene)-β-D-ribo-hexofuranosyl]-5-methyl- (9CI) (CA INDEX NAME)

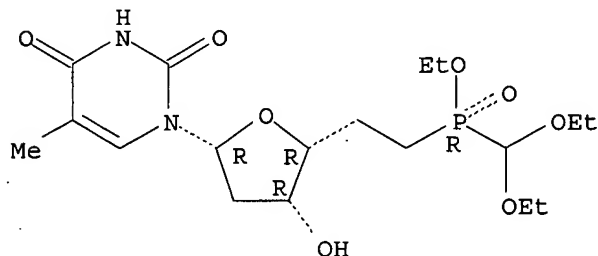
Absolute stereochemistry.



RN 162880-81-1 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-1-[2,5,6-trideoxy-6-[(diethoxymethyl)ethoxyphosphinyl]-β-D-threo-hexofuranosyl]-, (R)- (9CI) (CA INDEX NAME)

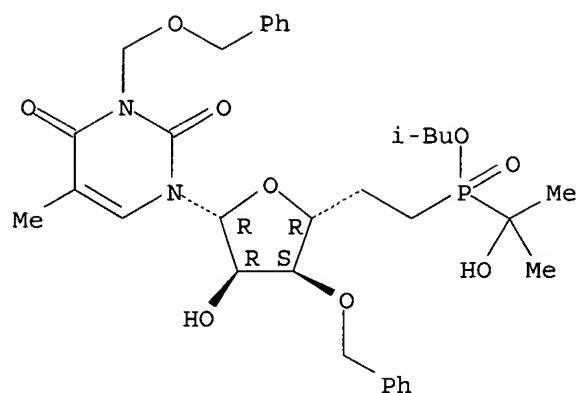
Absolute stereochemistry.



RN 162880-92-4 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 1-[5,6-dideoxy-6-[(1-hydroxy-1-methylethyl)(2-methylpropoxy)phosphinyl]-3-O-(phenylmethyl)-β-D-ribo-hexofuranosyl]-5-methyl-3-[(phenylmethoxy)methyl]- (9CI) (CA INDEX NAME)

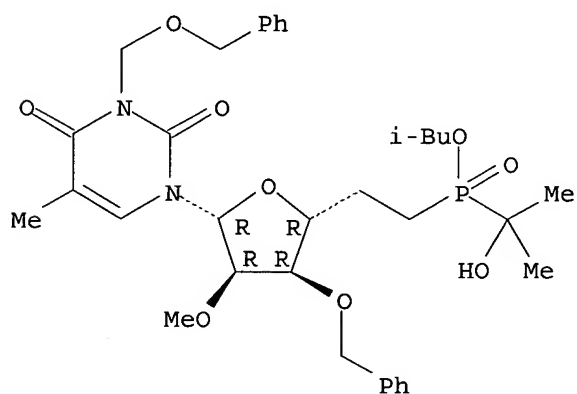
Absolute stereochemistry.



RN 162880-93-5 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 1-[5,6-dideoxy-6-[(1-hydroxy-1-methylethyl)(2-methylpropoxy)phosphinyl]-2-O-methyl-3-O-(phenylmethyl)-β-D-ribo-hexofuranosyl]-5-methyl-3-[(phenylmethoxy)methyl]- (9CI) (CA INDEX NAME)

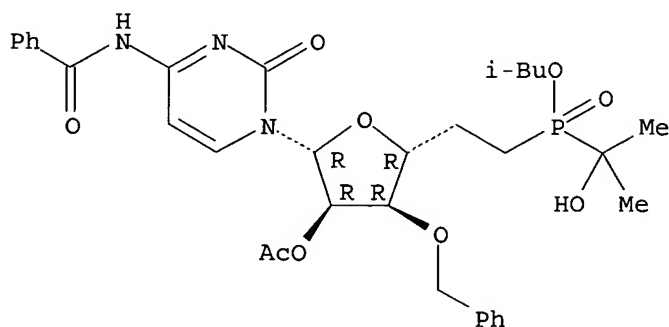
Absolute stereochemistry.



RN 162880-97-9 HCAPLUS

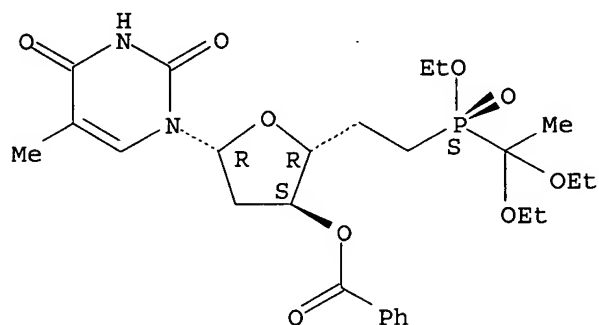
CN Benzamide, N-[1-[2-O-acetyl-5,6-dideoxy-6-[(1-hydroxy-1-methylethyl)(2-methylpropoxy)phosphinyl]-3-O-(phenylmethyl)-β-D-ribo-hexofuranosyl]-1,2-dihydro-2-oxo-4-pyrimidinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



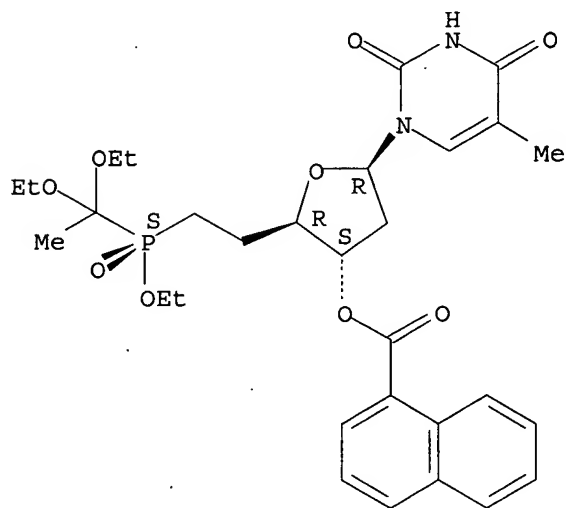
RN 162881-05-2 HCAPLUS
 CN 2,4(1H,3H)-Pyrimidinedione, 1-[3-O-benzoyl-2,5,6-trideoxy-6-[(1,1-diethoxyethyl)ethoxyphosphinyl]- β -D-erythro-hexofuranosyl]-5-methyl-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



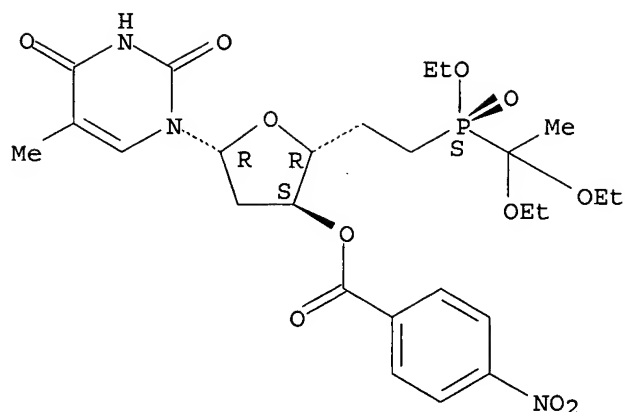
RN 162881-06-3 HCAPLUS
 CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-1-[2,5,6-trideoxy-6-[(1,1-diethoxyethyl)ethoxyphosphinyl]-3-O-(1-naphthalenylcarbonyl)- β -D-erythro-hexofuranosyl]-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 162881-07-4 HCAPLUS
 CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-1-[2,5,6-trideoxy-6-[(1,1-diethoxyethyl)ethoxyphosphinyl]-3-O-(4-nitrobenzoyl)- β -D-erythro-hexofuranosyl]-, (S)- (9CI) (CA INDEX NAME)

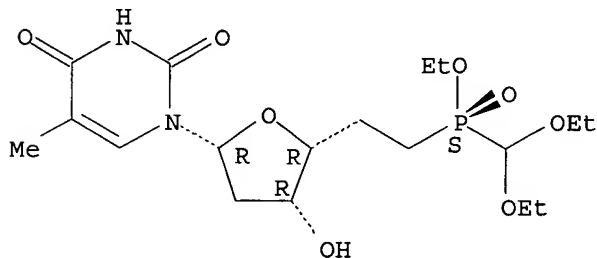
Absolute stereochemistry.



RN 162881-12-1 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-1-[2,5,6-trideoxy-6-[(diethoxymethyl)ethoxyphosphinyl]-β-D-threo-hexofuranosyl]-, (S)-(9CI) (CA INDEX NAME)

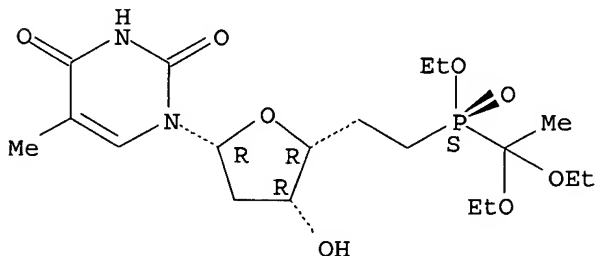
Absolute stereochemistry.



RN 162881-16-5 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-1-[2,5,6-trideoxy-6-[(1,1-diethoxyethyl)ethoxyphosphinyl]-β-D-threo-hexofuranosyl]-, (S)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



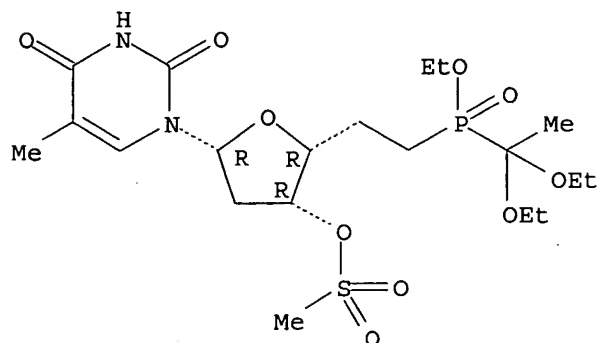
IT 162880-53-7P 162880-54-8P 162880-55-9P
162880-63-9P 162880-68-4P 162880-82-2P
162881-02-9P 162881-03-0P 162881-13-2P
162991-63-1P 162991-66-4P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of mononucleotide analogs)

RN 162880-53-7 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-1-[2,5,6-trideoxy-6-[(1,1-diethoxyethyl)ethoxyphosphinyl]-3-O-(methylsulfonyl)- β -D-threo-hexofuranosyl]- (9CI) (CA INDEX NAME)

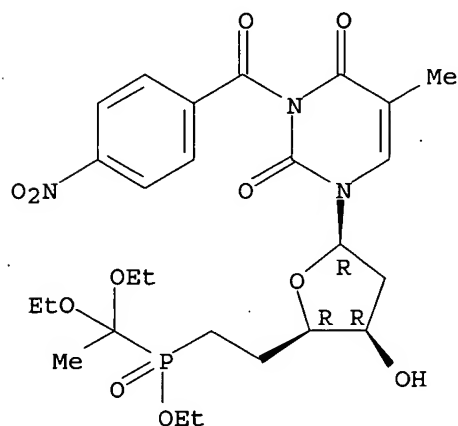
Absolute stereochemistry.



RN 162880-54-8 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-3-(4-nitrobenzoyl)-1-[2,5,6-trideoxy-6-[(1,1-diethoxyethyl)ethoxyphosphinyl]- β -D-threo-hexofuranosyl]- (9CI) (CA INDEX NAME)

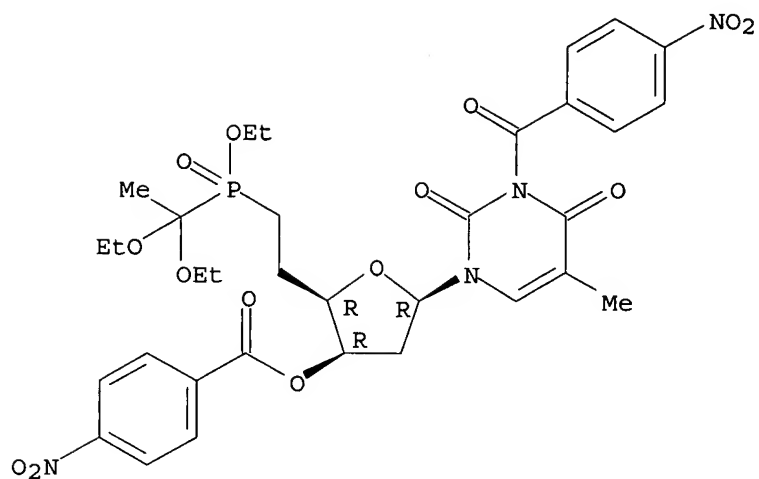
Absolute stereochemistry.



RN 162880-55-9 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-3-(4-nitrobenzoyl)-1-[2,5,6-trideoxy-6-[(1,1-diethoxyethyl)ethoxyphosphinyl]-3-O-(4-nitrobenzoyl)- β -D-threo-hexofuranosyl]- (9CI) (CA INDEX NAME)

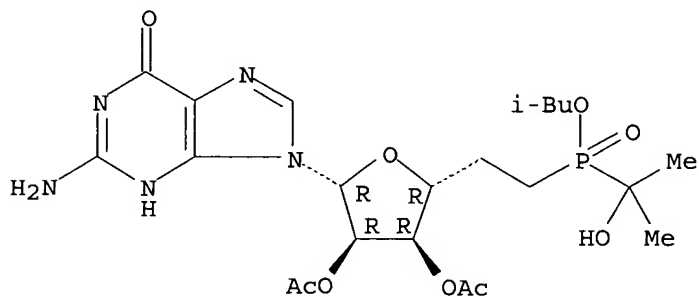
Absolute stereochemistry.



RN 162880-63-9 HCAPLUS

CN 6H-Purin-6-one, 2-amino-9-[2,3-di-O-acetyl-5,6-dideoxy-6-[(1-hydroxy-1-methylethyl)(2-methylpropoxy)phosphinyl]-β-D-ribo-hexofuranosyl]-1,9-dihydro- (9CI) (CA INDEX NAME)

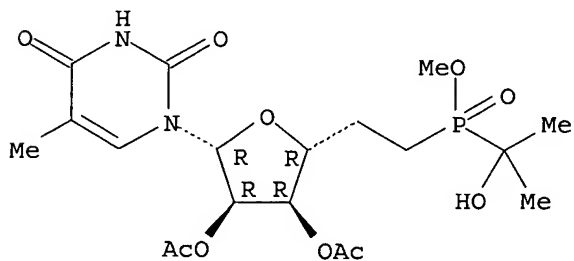
Absolute stereochemistry.



RN 162880-68-4 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,3-di-O-acetyl-5,6-dideoxy-6-[(1-hydroxy-1-methylethyl)methoxyphosphinyl]-β-D-ribo-hexofuranosyl]-5-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

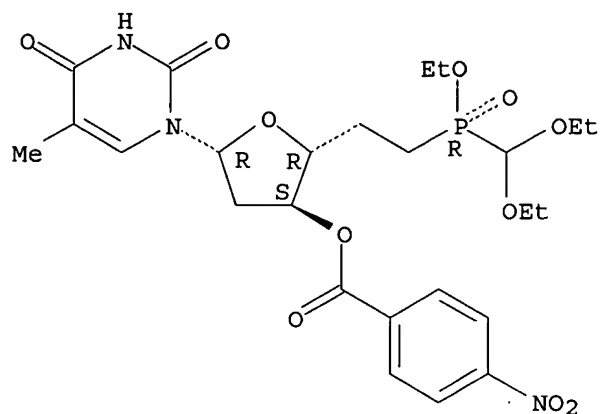


RN 162880-82-2 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-1-[2,5,6-trideoxy-6-

[(diethoxymethyl)ethoxyphosphinyl]-3-O-(4-nitrobenzoyl)- β -D-erythro-hexofuranosyl]-, (R)- (9CI) (CA INDEX NAME)

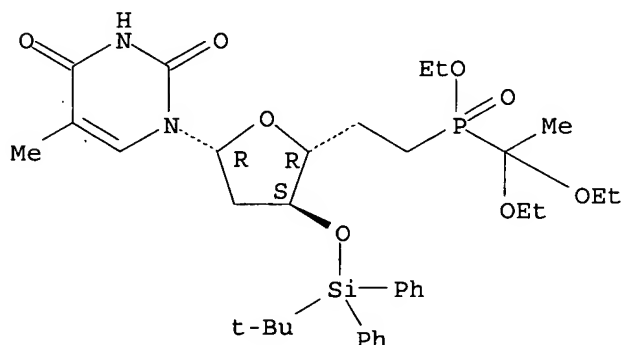
Absolute stereochemistry.



RN 162881-02-9 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-1-[2,5,6-trideoxy-6-[(1,1-diethoxyethyl)ethoxyphosphinyl]-3-O-[(1,1-dimethylethyl)diphenylsilyl]- β -D-erythro-hexofuranosyl]- (9CI) (CA INDEX NAME)

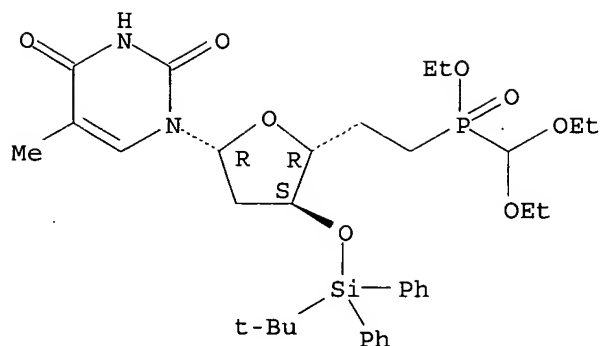
Absolute stereochemistry.



RN 162881-03-0 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-1-[2,5,6-trideoxy-6-[(diethoxymethyl)ethoxyphosphinyl]-3-O-[(1,1-dimethylethyl)diphenylsilyl]- β -D-erythro-hexofuranosyl]- (9CI) (CA INDEX NAME)

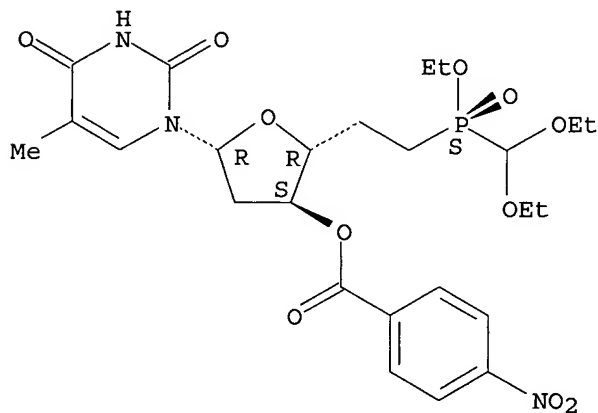
Absolute stereochemistry.



RN 162881-13-2 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-1-[2,5,6-trideoxy-6-[(diethoxymethyl)ethoxyphosphinyl]-3-O-(4-nitrobenzoyl)-β-D-erythro-hexofuranosyl]-, (S)- (9CI) (CA INDEX NAME)

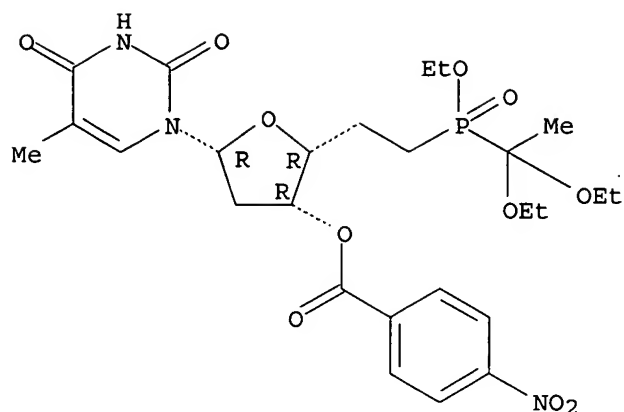
Absolute stereochemistry.



RN 162991-63-1 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl-1-[2,5,6-trideoxy-6-[(1,1-diethoxyethyl)ethoxyphosphinyl]-3-O-(4-nitrobenzoyl)-β-D-threo-hexofuranosyl]- (9CI) (CA INDEX NAME)

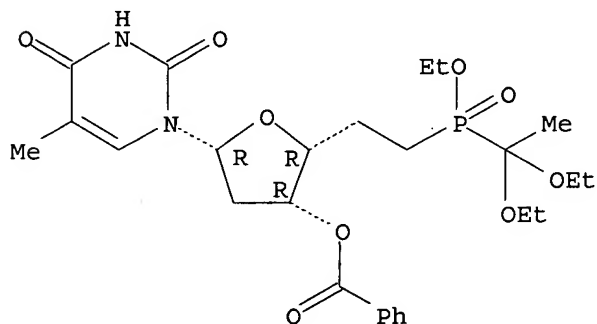
Absolute stereochemistry.



RN 162991-66-4 HCAPLUS

CN 2,4(1H,3H)-Pyrimidinedione, 1-[3-O-benzoyl-2,5,6-trideoxy-6-[(1,1-diethoxyethyl)ethoxyphosphinyl]-β-D-threo-hexofuranosyl]-5-methyl-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



L38 ANSWER 18 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:380394 HCAPLUS

DOCUMENT NUMBER: 122:127584

TITLE: Immobilization of lipases on hydrophobic supports in presence of non-ionic surfactants

INVENTOR(S): Bosley, John Anthony; Moore, Stephen Raymond

PATENT ASSIGNEE(S): Ioders-Croklaan, Neth.

SOURCE: PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9428118	A1	19941208	WO 1994-EP1308	19940422 <--
W:	AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KG, KP, KR, KZ, LK, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN			

RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,
BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9467218 A1 19941220 AU 1994-67218 19940422 <--
EP 698090 A1 19960228 EP 1994-915544 19940422 <--
EP 698090 B1 19971126

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, NL, PT, SE
JP 08511159 T2 19961126 JP 1995-500145 19940422 <--
AT 160582 E 19971215 AT 1994-915544 19940422 <--
ES 2109698 T3 19980116 ES 1994-915544 19940422 <--
US 5773266 A 19980630 US 1995-545818 19951109 <--

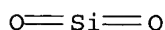
PRIORITY APPLN. INFO.: EP 1993-303917 A 19930520
WO 1994-EP1308 W 19940422

AB The invention concerns a new process for the immobilization of lipases on hydrophobic support material. In this process a non-ionic surfactant is applied. The novel immobilized lipases as well as their use in hydrolysis of glycerides, diglycerides, and esters or in esterification or transesterification of fatty acids, diglycerides, or glycerides are claimed. *Candida antarctica* lipase was immobilized on Accurel EP100 by incubation of lipase, Tween 20, and support in phosphate buffer, pH 7, for 16 h. All the lipase was adsorbed. The activity of the immobilized enzyme was 4.6-4.9 $\mu\text{mol}/\text{min}/\text{mg}$.

IT **7631-86-9D**, Silica, silanized
RL: DEV (Device component use); USES (Uses)
(immobilization of lipases on hydrophobic supports in presence of non-ionic surfactants)

RN 7631-86-9 HCAPLUS

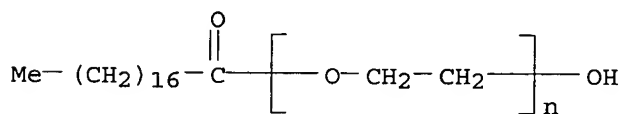
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT **9004-99-3**, Polyethylene glycol monostearate **9005-64-5**, Tween 20 **9005-65-6**, Tween 80
RL: MOA (Modifier or additive use); USES (Uses)
(immobilization of lipases on hydrophobic supports in presence of non-ionic surfactants)

RN 9004-99-3 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(1-oxooctadecyl)- ω -hydroxy- (9CI)
(CA INDEX NAME)



RN 9005-64-5 HCAPLUS

CN Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivs. (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9005-65-6 HCAPLUS

CN Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

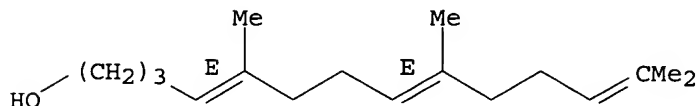
L38 ANSWER 19 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:216663 HCAPLUS
 DOCUMENT NUMBER: 122:10300
 TITLE: Preparation of α -phosphonoalkanoates as squalene synthetase inhibitors
 INVENTOR(S): Biller, Scott A.; Magnin, David R.
 PATENT ASSIGNEE(S): Bristol-Myers Squibb Co., USA
 SOURCE: U.S., 28 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5312814	A	19940517	US 1992-987831	19921209 <--
CA 2109771	AA	19940610	CA 1993-2109771	19931123 <--
EP 601573	A1	19940615	EP 1993-119815	19931208 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
AU 9352232	A1	19940623	AU 1993-52232	19931208 <--
AU 672245	B2	19960926		
JP 06228175	A2	19940816	JP 1993-307828	19931208 <--
PRIORITY APPLN. INFO.:			US 1992-987831	A 19921209

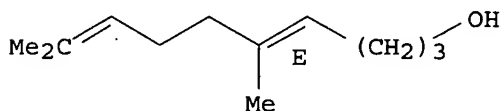
OTHER SOURCE(S): MARPAT 122:10300
 AB R2O(R3O)P(O)CRR1CO2R4 [R = H, halo, OH, (hydroxy)alkyl; R1 = (cyclo)alkyl, alkenyl, alkynyl, aryl(alkyl), etc.; R2,R3 = H, metal ion, ester residue, etc.; R4 = groups cited for R2, alkyl, aryl(alkyl), etc.] were prepared as squalene synthetase inhibitors (no data). Thus, farnesyl bromide (preparation given.) was condensed with AcOCMe₃ and the product converted in 3 steps to R5CH₂CH₂I (R5 = farnesyl) which was condensed with (EtO)₂P(O)CH₂CO₂Et to give, after saponification, (NaO)₂P(O)CH(CH₂CH₂R5)CO₂Na (R5 = farnesyl).
 IT 67858-77-9P 67858-88-2P 159323-25-8P
 159323-27-0P 159323-45-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, in preparation of squalene synthetase inhibitor)
 RN 67858-77-9 HCAPLUS
 CN 4,8,12-Tetradecatrien-1-ol, 5,9,13-trimethyl-, (4E,8E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



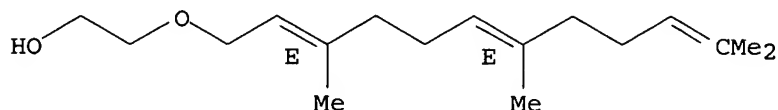
RN 67858-88-2 HCAPLUS
 CN 4,8-Decadien-1-ol, 5,9-dimethyl-, (4E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



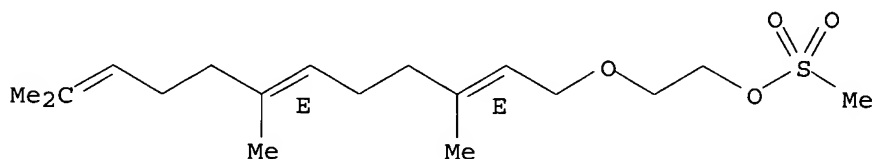
RN 159323-25-8 HCAPLUS
 CN Ethanol, 2-[(3,7,11-trimethyl-2,6,10-dodecatrienyl)oxy]-, (E,E)- (9CI)
 (CA INDEX NAME)

Double bond geometry as shown.

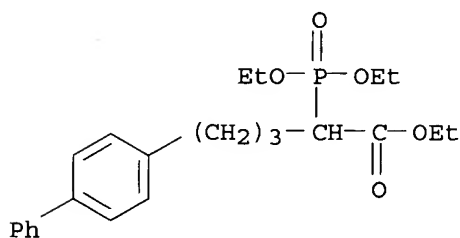


RN 159323-27-0 HCAPLUS
 CN Ethanol, 2-[(3,7,11-trimethyl-2,6,10-dodecatrienyl)oxy]-, methanesulfonate, (E,E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

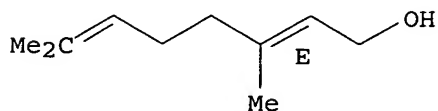


RN 159323-45-2 HCAPLUS
 CN [1,1'-Biphenyl]-4-pentanoic acid, α -(diethoxyphosphinyl)-, ethyl ester (9CI) (CA INDEX NAME)



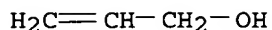
IT 106-24-1, Geraniol 107-18-6, Allyl alcohol, reactions 540-88-5, tert-Butyl acetate 18997-19-8, Chloromethyl pivalate
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, in preparation of squalene synthetase inhibitor)
 RN 106-24-1 HCAPLUS
 CN 2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



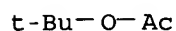
RN 107-18-6 HCAPLUS

CN 2-Propen-1-ol (9CI) (CA INDEX NAME)



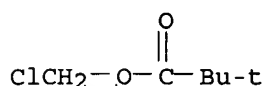
RN 540-88-5 HCAPLUS

CN Acetic acid, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 18997-19-8 HCAPLUS

CN Propanoic acid, 2,2-dimethyl-, chloromethyl ester (9CI) (CA INDEX NAME)



L38 ANSWER 20 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:664792 HCAPLUS

DOCUMENT NUMBER: 121:264792

TITLE: Kinetics and mechanism of H₂O₂ decomposition by Cu(II)-, Co(II)-, and Fe(III)-amine complexes on the surface of silica-alumina (25% Al₂O₃)

AUTHOR(S): Salem, Mohamed A.; Salem, Ibrahim A.; Gemeay, Ali H.

CORPORATE SOURCE: Dep. Chem., Univ. Qatar, Doha, Qatar

SOURCE: International Journal of Chemical Kinetics (1994), 26(11), 1055-61

CODEN: IJCKBO; ISSN: 0538-8066

PUBLISHER: Wiley

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The kinetics of the H₂O₂ decomposition by Cu(II)-, Co(II)-, and Fe(III)-amine complexes supported on the surface of silica-alumina (25% Al₂O₃) catalyst have been investigated. The decomposition process proceeded with first-order kinetics for the substrate concentration. With copper complexes, in particular, the rate of reaction decreased in the sequence: ethylenediamine (en) > monoethanolamine (mea) > triethanolamine (tea). With ethylenediamine as a ligand, the rate also decreased in the order: Cu(II) > Co(II) > Fe(III). Both the energy and entropy of activation were found to decrease as: en > mea > tea and for one ligand (en) and different metal ions the sequence was Cu(II) > Co(II) > Fe(III). The decomposition reaction involved the formation of an intermediate active species, which converts into a peroxo-metal-complex of brown or faint red color. The rate of reaction was directly proportional to the [complex], [H₂O₂], and [H]⁻¹. A mechanism describing the decomposition process is proposed.

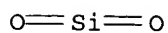
IT 7631-86-9, Silica, uses 47098-90-8 52906-32-8

RL: CAT (Catalyst use); USES (Uses)

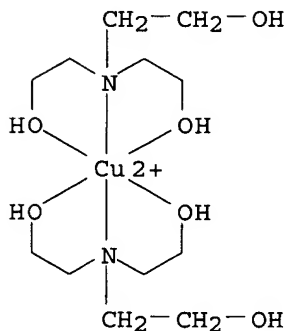
(kinetics and mechanism of H₂O₂ decomposition by Cu(II)-, Co(II)-, and Fe(III)-amine complexes on surface of silica-alumina)

RN 7631-86-9 HCAPLUS

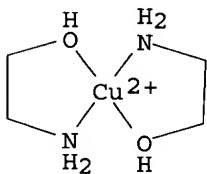
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



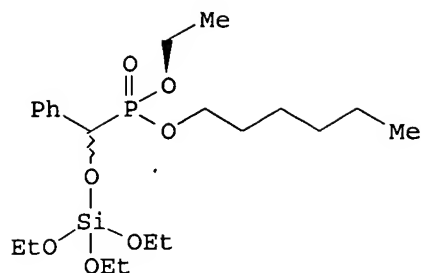
RN 47098-90-8 HCAPLUS
 CN Copper(2+), bis[2,2',2''-nitrilotris[ethanol]-N,O,O']- (9CI) (CA INDEX NAME)



RN 52906-32-8 HCAPLUS
 CN Copper(2+), bis[2-(amino-κN)ethanol-κO]- (9CI) (CA INDEX NAME)



L38 ANSWER 21 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1994:408397 HCAPLUS
 DOCUMENT NUMBER: 121:8397
 TITLE: Selective catalysis with silicon dioxide imprinted with transition state analogs
 AUTHOR(S): Heilmann, Jens; Maier, Wilhelm F.
 CORPORATE SOURCE: Max-Planck-Inst. Kohlenforsch., Muelheim an der Ruhr, D-45466, Germany
 SOURCE: Angewandte Chemie (1994), 106(4), 491-3 (See also Angew. Chem., Int. Ed. Engl., 1994, 33(4), 471-3)
 CODEN: ANCEAD; ISSN: 0044-8249
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 121:8397
 GI



AB A catalyst was prepared [from the benzylphosphite mixed ester (I), aqueous HCl and (EtO)₄Si in a sol-gel process] which contained an embedded transition state analog of the transition state for the acid catalyzed transesterification of PhCH₂CO₂Et (II). The reaction of II with 1:1:1 n-hexanol (III)-n-octanol-PhCH₂CH₂OH (IV) over the catalyst gave only a 1:1 n-C₆H₁₃O₂CCH₂Ph (V)-n-C₈H₁₇O₂CCH₂Ph mixture. Similarly the reaction of PhCH₂CO₂Et and Et 1-naphthylacetate with III and IV over the catalyst gave only V. The reactions follow Michaelis-Menten kinetics. The mechanism and the catalyst structure are discussed.

IT 60-12-8, 2-Phenylethanol

RL: RCT (Reactant); RACT (Reactant or reagent)

(attempted transesterification of Et arylacetates with, over selective silica catalyst)

RN 60-12-8 HCAPLUS

CN Benzeneethanol (9CI) (CA INDEX NAME)

HO-CH₂-CH₂-Ph

IT 70621-75-9

RL: PROC (Process)

(conversion of, to silyl coupler)

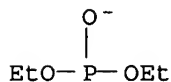
RN 70621-75-9 HCAPLUS

CN 1-Butanaminium, N,N,N-tributyl-, diethyl phosphite (9CI) (CA INDEX NAME)

CM 1

CRN 29800-93-9

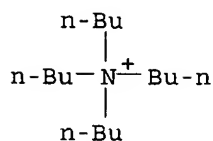
CMF C4 H10 O3 P



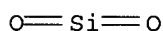
CM 2

CRN 10549-76-5

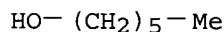
CMF C16 H36 N



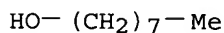
IT 7631-86-9D, Silica, Et n-hexyl 1-hydroxy(phenyl)methanephosphonate embedded
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation as catalyst, for selective transesterifications of Et phenylacetate, kinetics and mechanism with)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 111-27-3, 1-Hexanol, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (transesterification of, with Et phenylacetate, kinetics and mechanism with selective silica catalyst containing imprinted transition state analog for)
 RN 111-27-3 HCAPLUS
 CN 1-Hexanol (9CI) (CA INDEX NAME)



IT 111-87-5, 1-Octanol, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (transesterification of, with Et phenylacetate, selective silica catalyst containing imprinted transition state analog for)
 RN 111-87-5 HCAPLUS
 CN 1-Octanol (9CI) (CA INDEX NAME)



L38 ANSWER 22 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1994:218173 HCAPLUS
 DOCUMENT NUMBER: 120:218173
 TITLE: Preparation of hydroxyphosphinyl phosphonate squalene synthetase inhibitors
 INVENTOR(S): Biller, Scott A.; Dickson, John K., Jr.
 PATENT ASSIGNEE(S): E. R. Squibb and Sons, Inc., USA
 SOURCE: U.S., 21 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 5254544	A	19931019	US 1992-950555	19920925 <--
CA 2104748	AA	19940326	CA 1993-2104748	19930824 <--
JP 06199880	A2	19940719	JP 1993-236279	19930922 <--
EP 589473	A1	19940330	EP 1993-115441	19930924 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
AU 9347561	A1	19940331	AU 1993-47561	19930924 <--
AU 670810	B2	19960801		

PRIORITY APPLN. INFO.:

US 1992-950555

A 19920925

OTHER SOURCE(S):

MARPAT 120:218173

AB HP(O)(OR2)CHR1P(O)(OR3)OR4 (R1 = lipophilic group containing >6 C atoms; R2-R4 = H, alkyl, aryl, **metal ion**) were prepared as squalene synthetase inhibitors (no data). Thus, bishomofarnesol (preparation given) was converted to (E,E)-14-iodo-2,6,10-trimethyl-2,6,19-tetradecatriene, which was condensed with lithiated di-Et methylphosphonate in THF at -78°-room temperature to give (E,E)-(6,10,14-trimethyl-5,9,13-pentadecatrienyl)phosphonic acid, di-Et ester. This was lithiated with BuLi in THF at -78° followed by condensation with di-Et chlorophosphate at -78°-room temperature to give, after deprotection, (E,E)-[(1-hydroxyphosphinyl)-6,10,14-trimethyl-5,9,13-pentadecatrienyl]phosphonic acid, tripotassium salt. Title compds. may also be useful in treating tumors, inhibiting formation of gallstones, lowering blood pressure, lowering blood sugar, treating diabetes, treating inflammation, and as diuretics, inotropics, and antiarthritics.

IT 67858-77-9P 67858-88-2P 153916-14-4P

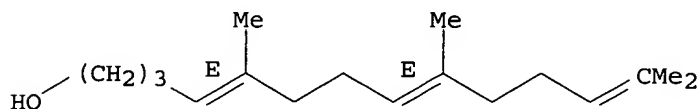
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, as intermediate for hydroxyphosphinylphosphonate squalene synthetase inhibitor)

RN 67858-77-9 HCAPLUS

CN 4,8,12-Tetradecatrien-1-ol, 5,9,13-trimethyl-, (4E,8E)- (9CI) (CA INDEX NAME)

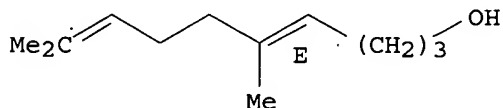
Double bond geometry as shown.



RN 67858-88-2 HCAPLUS

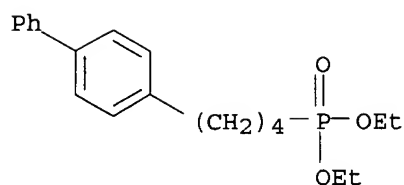
CN 4,8-Decadien-1-ol, 5,9-dimethyl-, (4E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 153916-14-4 HCAPLUS

CN Phosphonic acid, [4-([1,1'-biphenyl]-4-yl)butyl]-, diethyl ester (9CI) (CA INDEX NAME)

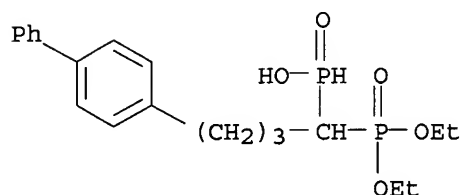


IT 153916-07-5P 153916-12-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as squalene synthetase inhibitor)

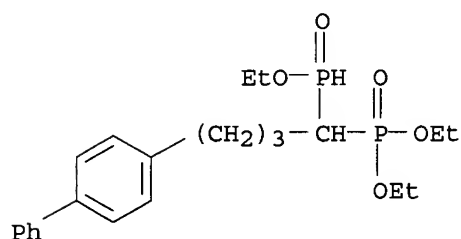
RN 153916-07-5 HCAPLUS

CN Phosphonic acid, [4-[1,1'-biphenyl]-4-yl-1-(hydroxyphosphinyl)butyl]-, diethyl ester (9CI) (CA INDEX NAME)



RN 153916-12-2 HCAPLUS

CN Phosphonic acid, [4-[1,1'-biphenyl]-4-yl-1-(ethoxyphosphinyl)butyl]-, diethyl ester (9CI) (CA INDEX NAME)



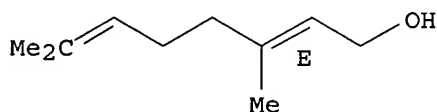
IT 106-24-1, Geraniol 540-88-5, tert-Butyl acetate

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of hydroxyphosphinylphosphonate squalene synthetase inhibitor)

RN 106-24-1 HCAPLUS

CN 2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 540-88-5 HCAPLUS

CN Acetic acid, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

t-Bu-O-Ac

L38 ANSWER 23 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:217856 HCAPLUS

DOCUMENT NUMBER: 120:217856

TITLE: 1,8-Diazabicyclo[5.4.0]undecene mediated
transesterification of p-nitrophenyl phosphonates: a
novel route to phosphono estersAUTHOR(S): Tawfik, Dan S.; Eshhar, Zelig; Bentolila, Alfonso;
Green, Bernard S.CORPORATE SOURCE: Dep. Chem. Immunol., Weizmann Inst. Sci., Rehovot,
76100, Israel

SOURCE: Synthesis (1993), (10), 968-72

CODEN: SYNTBF; ISSN: 0039-7881

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 120:217856

AB DBU (1,8-diazabicyclo[5.4.0]undecene) efficiently mediate the transesterification of p-nitrophenyl (PNP) phosphonates by various **alcs.** Reactions of bis-PNP phosphonates in the presence of DBU with both primary and secondary **alcs.**, phenols and amines proceed rapidly and with high yield to afford the corresponding monoalkyl/aryl mono-PNP phosphonates, e.g., MeP(O)(OMe)OC₆H₄NO₂-p, as sole products. The resulting monoalkyl/aryl mono-PNP phosphonates can be further reacted with a second **alc.** to give the corresponding differently disubstituted phosphonates, or selectively hydrolyzed to yield the monoalkyl/aryl phosphonic acids. This chemical was applied to the preparation

of a series of phosphono ester transition-state analogs that were used as haptens for raising catalytic antibodies.

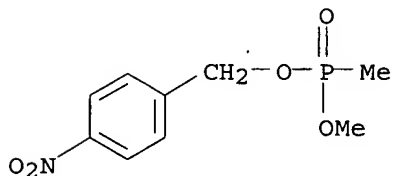
IT 4950-88-3P 153957-78-9P 154624-56-3P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation, DBU-mediated transesterification of nitrophenyl phosphonates, a novel route to phosphono esters)

RN 4950-88-3 HCAPLUS

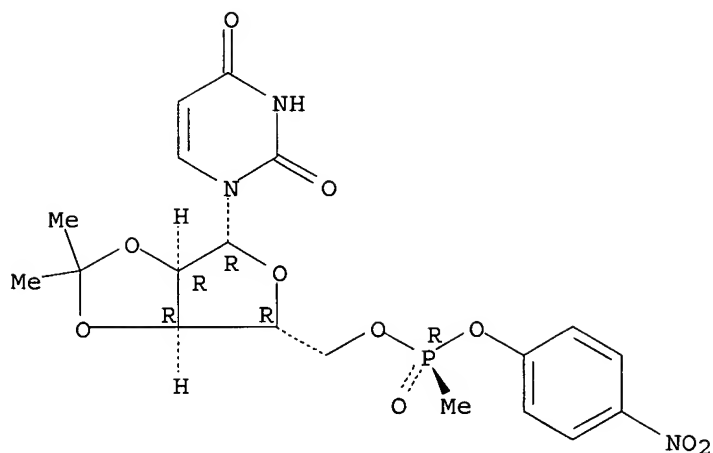
CN Phosphonic acid, methyl-, methyl (4-nitrophenyl)methyl ester (9CI) (CA INDEX NAME)



RN 153957-78-9 HCAPLUS

CN Uridine, 2',3'-O-(1-methylethylidene)-, 5'-(4-nitrophenyl
methylphosphonate), (R)- (9CI) (CA INDEX NAME)

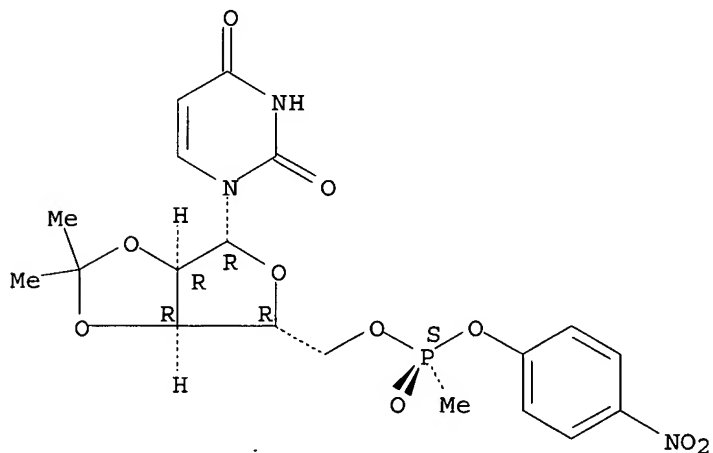
Absolute stereochemistry.



RN 154624-56-3 HCAPLUS

CN Uridine, 2',3'-O-(1-methylethylidene)-, 5'-(4-nitrophenyl methylphosphonate), (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

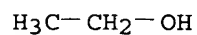


IT 64-17-5, Ethanol, reactions 67-56-1, Methanol, reactions 67-63-0, 2-Propanol, reactions 371-62-0 619-73-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant, DBU-mediated transesterification of nitrophenyl phosphonates, a novel route to phosphono esters)

RN 64-17-5 HCAPLUS

CN Ethanol (9CI) (CA INDEX NAME)

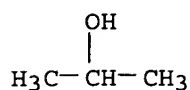


RN 67-56-1 HCAPLUS

CN Methanol (8CI, 9CI) (CA INDEX NAME)

$$\text{H}_3\text{C}-\text{OH}$$

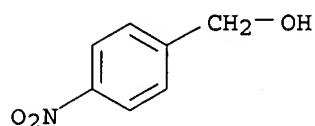
RN 67-63-0 HCAPLUS
CN 2-Propanol (9CI) (CA INDEX NAME)



RN 371-62-0 HCAPLUS
CN Ethanol, 2-fluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

$$\text{F}-\text{CH}_2-\text{CH}_2-\text{OH}$$

RN 619-73-8 HCAPLUS
CN Benzenemethanol, 4-nitro- (9CI) (CA INDEX NAME)



L38 ANSWER 24 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1993:139856 HCAPLUS
DOCUMENT NUMBER: 118:139856
TITLE: Bisphosphonate squalene synthetase inhibitors for therapeutic use
INVENTOR(S): Biller, Scott A.; Magnin, David R.
PATENT ASSIGNEE(S): E. R. Squibb and Sons, Inc., USA
SOURCE: U.S., 52 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5157027	A	19921020	US 1991-699429	19910513 <--
CA 2067967	AA	19921114	CA 1992-2067967	19920504 <--
AU 9216158	A1	19921119	AU 1992-16158	19920511 <--
AU 660672	B2	19950706		
HU 61772	A2	19930301	HU 1992-1577	19920512 <--
EP 513761	A2	19921119	EP 1992-108074	19920513 <--
EP 513761	A3	19930714		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, PT, SE				
ZA 9203475	A	19930127	ZA 1992-3475	19920513 <--
JP 05178867	A2	19930720	JP 1992-148099	19920513 <--
JP 3238746	B2	20011217		
PRIORITY APPLN. INFO.:			US 1991-699429	A 19910513
OTHER SOURCE(S):		MARPAT 118:139856		

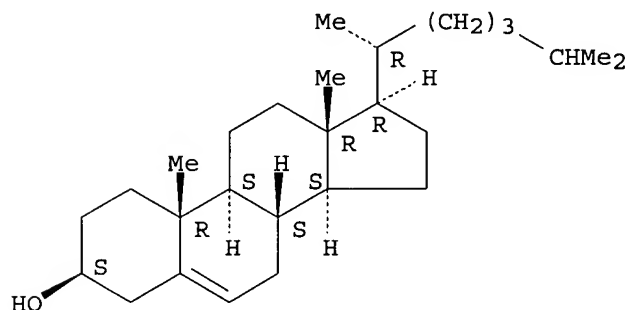
AB Bisphosphonates R3OP(O)(OR4)C(R5)(Z)P(O)(OR2)OR1 [R1-4 = H, lower alkyl, **metal ion**, prodrug ester; R5 = H, halo, lower alkyl; Z = alkenyl group containing ≥ 7 C in chain and 1-4 double bonds, alkynyl containing 1-4 triple bonds, etc.; R1 and R2 and/or R3 and R4 can be taken together (groups defined)] are hypocholesterolemic. Tri-Na (E,E)-(6,10,14-trimethyl-5,9,13-pentadecatrienylidene)bisphosphonate was prepared from (E,E)-farnesol in 7 steps. Preparation of many other bisphosphonates also is described.

IT 57-88-5, Cholest-5-en-3-ol (3 β)-, biological studies
 RL: BIOL (Biological study)
 (biosynthesis of, inhibition of, bisphosphonates for)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

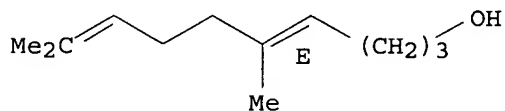


IT 67858-88-2P 82657-70-3P, 4-Propylbenzenemethanol
 141620-06-6P 145573-17-7P 145589-52-2P
 145589-68-0P 145589-87-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, in synthesis of hypocholesterolemic bisphosphonate)

RN 67858-88-2 HCAPLUS

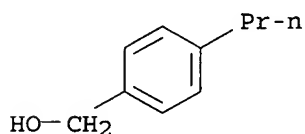
CN 4,8-Decadien-1-ol, 5,9-dimethyl-, (4E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 82657-70-3 HCAPLUS

CN Benzenemethanol, 4-propyl- (9CI) (CA INDEX NAME)

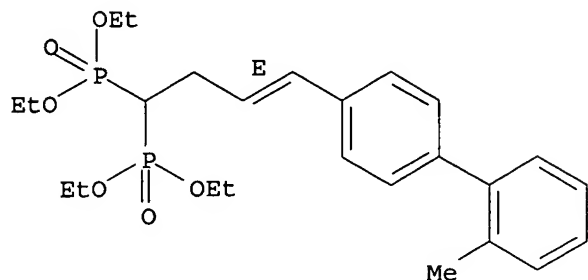


RN 141620-06-6 HCAPLUS

CN Phosphonic acid, [4-(2'-methyl[1,1'-biphenyl]-4-yl)-3-butenylidene]bis-,

tetraethyl ester, (E)- (9CI) (CA INDEX NAME)

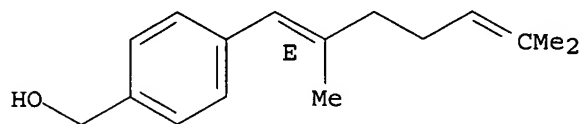
Double bond geometry as shown.



RN 145573-17-7 HCAPLUS

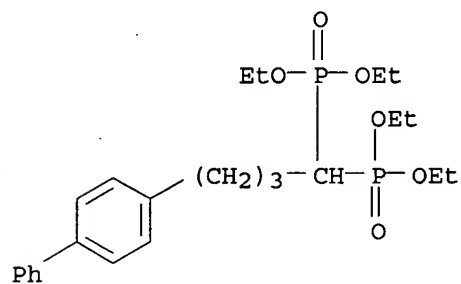
CN Benzenemethanol, 4-(2,6-dimethyl-1,5-heptadienyl)-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



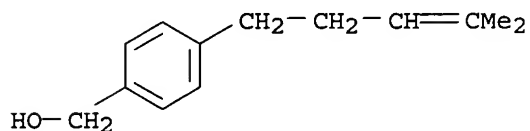
RN 145589-52-2 HCAPLUS

CN Phosphonic acid, (4-[1,1'-biphenyl]-4-ylbutylidene)bis-, tetraethyl ester (9CI) (CA INDEX NAME)



RN 145589-68-0 HCAPLUS

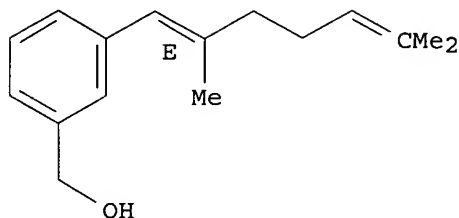
CN Benzenemethanol, 4-(4-methyl-3-pentenyl)- (9CI) (CA INDEX NAME)



RN 145589-87-3 HCAPLUS

CN Benzenemethanol, 3-(2,6-dimethyl-1,5-heptadienyl)-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT 106-24-1 106-25-2 627-30-5, 3-Chloro-1-propanol

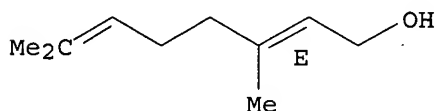
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, in synthesis of hypocholesterolemic bisphosphonate)

RN 106-24-1 HCAPLUS

CN 2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)- (9CI) (CA INDEX NAME)

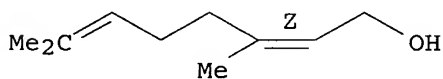
Double bond geometry as shown.



RN 106-25-2 HCAPLUS

CN 2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 627-30-5 HCAPLUS

CN 1-Propanol, 3-chloro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

Cl-CH₂-CH₂-CH₂-OH

L38 ANSWER 25 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:581527 HCAPLUS

DOCUMENT NUMBER: 115:181527

TITLE: Lipase isozymes for stereoselective hydrolysis of esters or transesterification

INVENTOR(S): Cobbs, Carrington S.; Barton, Michael J.; Peng, Lin; Goswami, Animesh; Malick, Adrien P.; Hamman, John P.; Calton, Gary J.

PATENT ASSIGNEE(S): Rhone-Poulenc, Inc., USA

SOURCE: PCT Int. Appl., 142 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9015146	A1	19901213	WO 1990-US2990	19900601 <--
W: AU, CA, HU, JP, KR, SU				
US 5108916	A	19920428	US 1989-361049	19890605 <--
ZA 9004121	A	19910529	ZA 1990-4121	19900529 <--
IL 94545	A1	19940530	IL 1990-94545	19900529 <--
CA 2057007	AA	19901206	CA 1990-2057007	19900601 <--
AU 9058242	A1	19910107	AU 1990-58242	19900601 <--
AU 637113	B2	19930520		
HU 61050	A2	19921130	HU 1990-4853	19900601 <--
JP 05500452	T2	19930204	JP 1990-508806	19900601 <--
EP 407033	A2	19910109	EP 1990-306098	19900605 <--
EP 407033	A3	19910403		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE

PRIORITY APPLN. INFO.: US 1989-361049 A 19890605
 WO 1990-US2990 A 19900601

AB The lipase isoenzymes CSC-1 and CSC-2 of *Candida rugosa* are isolated, and partial N-terminus amino acid sequence given. These isoenzymes are very useful for stereoselective hydrolysis and transesterification of esters and esterification. The production of optically active 2-(4-hydroxyphenoxy)propionic acid, preferably in the presence of a reducing agent, with the lipase isoenzymes was shown. Also given was the optimization of stereoselective hydrolysis of ester with the immobilized lipase isoenzyme.

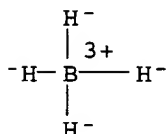
IT 16971-29-2, Borohydride

RL: BIOL (Biological study)

(lipase isoenzyme of *Candida rugosa* immobilized on ion-exchange resin using)

RN 16971-29-2 HCAPLUS

CN Borate(1-), tetrahydro- (8CI, 9CI) (CA INDEX NAME)



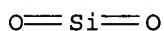
IT 7631-86-9, Silica, biological studies

RL: BIOL (Biological study)

(lipase isoenzymes of *Candida rugosa* immobilized on)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 9002-89-5, Polyvinyl alcohol

RL: BIOL (Biological study)

(lipase isoenzymes of *Candida rugosa* immobilized using)

RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

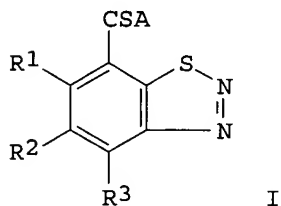
CRN 557-75-5

CMF C2 H4 O

 $\text{H}_2\text{C}=\text{CH}-\text{OH}$

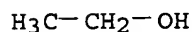
L38 ANSWER 26 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1991:471613 HCAPLUS
 DOCUMENT NUMBER: 115:71613
 TITLE: Preparation of 1,2,3-benzothiadiaazole derivatives and
 their use for protecting plants against diseases
 INVENTOR(S): Kunz, Walter; Schurter, Rolf
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
 SOURCE: Eur. Pat. Appl., 44 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 420803	A2	19910403	EP 1990-810705	19900917 <--
EP 420803	A3	19910918		
EP 420803	B1	19940309		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
AT 102614	E	19940315	AT 1990-810705	19900917 <--
ES 2062487	T3	19941216	ES 1990-810705	19900917 <--
CA 2026035	AA	19910327	CA 1990-2026035	19900924 <--
KR 152666	B1	19981015	KR 1990-15206	19900925 <--
JP 03169872	A2	19910723	JP 1990-256806	19900926 <--
US 5229384	A	19930720	US 1992-845518	19920227 <--
US 5304652	A	19940419	US 1993-57073	19930504 <--
PRIORITY APPLN. INFO.:			CH 1989-3480	A 19890926
			CH 1990-2483	A 19900725
			EP 1990-810705	A 19900917
			US 1990-586095	B1 19900919
			US 1992-845518	A3 19920227
OTHER SOURCE(S):		MARPAT 115:71613		
GI				

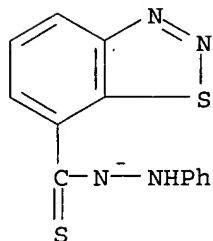


AB Title compds. I (R1, R2, R3 = H, halo, Me, MeO, MeS; A = R4O, R4S, R4 = H, metal ion, C1-18 alkyl, etc., R6R5N, R5, R6 = H, C1-18 alkyl, cyano, substituted C1-6 alkyl, alkoxyalkyl, C3-6 alkenyl, C3-6 alkynyl, etc., R6R5NNR7, R7 = H, C1-4 alkyl, R9R8C:NO, R8, R9 = H, C1-6 alkyl, NC, H2NCO, R7NHCONHCO, etc., R100NR7, R10 = H, C1-6 alkyl, C3-6 alkenyl, C5-7 cycloalkyl, Ph, PhCH2, substituted benzothiadiazoly) useful as plant fungicides, bactericides and virucides, are prepared I, where R1 = R2 = R3

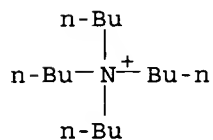
= H, A = OEt, at 0.02-0.06% controlled Puccinia graminis on wheat 80-100%.
 IT 64-17-5, **Ethanol**, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (alcoholysis by, of cyanobenzothiadiazole)
 RN 64-17-5 HCAPLUS
 CN Ethanol (9CI) (CA INDEX NAME)



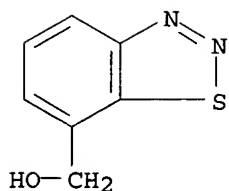
IT 135158-46-2P 135158-51-9P, 1,2,3-Benzothiadiazole-7-
methanol 135158-52-0P
 RL: AGR (Agricultural use); BAC (Biological activity or effector, except
 adverse); BSU (Biological study, unclassified); SPN (Synthetic
 preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of, as **pesticide**)
 RN 135158-46-2 HCAPLUS
 CN 1-Butanaminium, N,N,N-tributyl-, salt with 1,2,3-benzothiadiazole-7-
 carbothioic acid 2-phenylhydrazide (1:1) (9CI) (CA INDEX NAME)
 CM 1
 CRN 135158-45-1
 CMF C13 H9 N4 S2



CM 2
 CRN 10549-76-5
 CMF C16 H36 N

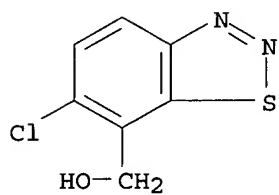


RN 135158-51-9 HCAPLUS
 CN 1,2,3-Benzothiadiazole-7-methanol (9CI) (CA INDEX NAME)



RN 135158-52-0 HCAPLUS

CN 1,2,3-Benzothiadiazole-7-methanol, 6-chloro- (9CI) (CA INDEX NAME)



L38 ANSWER 27 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1990:612556 HCAPLUS

DOCUMENT NUMBER: 113:212556

TITLE: Synthesis and reactivity of five-membered cyclic phosphorylating reagents and other auxiliaries for the synthesis of oligonucleotides

AUTHOR(S): Ugi, Ivar; Bachmeier, Norbert; Herrmann, Rudolpf; Jacob, Peter; Karl, Rosmarie; Klein, Manuela; Landgraf, Bernd; Lemmen, Peter; Richter, Wolfgang; Verfuether, Uwe

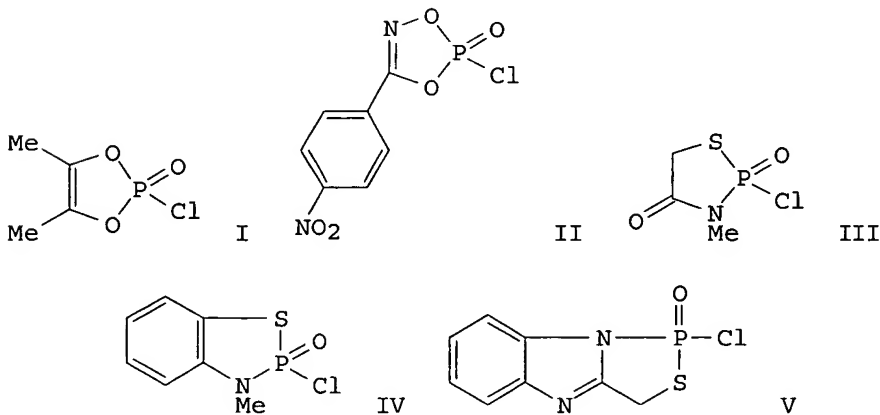
CORPORATE SOURCE: Inst. Org. Chem., Tech. Univ. Munich, Garching, D-8046, Germany

SOURCE: Phosphorus, Sulfur and Silicon and the Related Elements (1990), 51-52(1-4), 57-60
CODEN: PSSLEC; ISSN: 1042-6507

DOCUMENT TYPE: Journal

LANGUAGE: English

GI

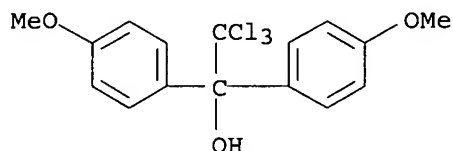


AB The 2-chloro-2-oxophospholes I-V were prepared and III was used as a phosphorylating reagent in the synthesis of a thymidine dinucleotide derivative. In addition, the 1,1-dianisyl-2,2,2-trichloroethyl (DATE) protective group, and the oxidation of P(III)-compds. by oxaziridines, including the destructively stereoselective oxidation of stereoisomeric P(III) compds. were presented.

IT **61698-78-0P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and triflation of)

RN 61698-78-0 HCAPLUS

CN Benzenemethanol, 4-methoxy- α -(4-methoxyphenyl)- α -(trichloromethyl)- (9CI) (CA INDEX NAME)

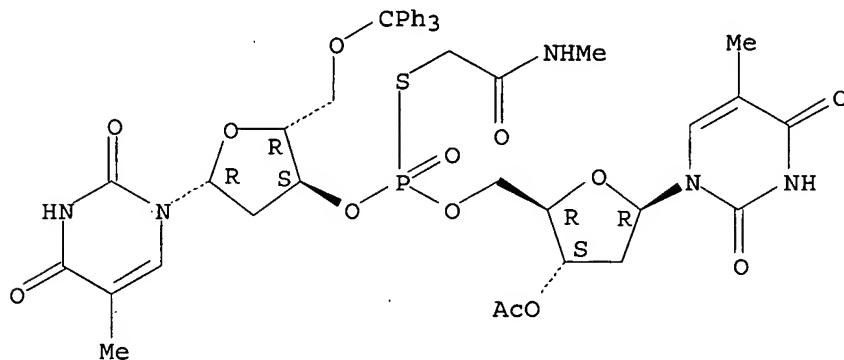


IT **130457-20-4P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, chlorothiaphosphole phosphorylation reagent in)

RN 130457-20-4 HCAPLUS

CN Thymidine, P(S)-[2-(methylamino)-2-oxoethyl]-P-thio-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L38 ANSWER 28 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1990:51289 HCAPLUS

DOCUMENT NUMBER: 112:51289

TITLE: Immobilization of lipase on fatty acid-treated insoluble carrier

INVENTOR(S): Yokomichi, Hideki; Yasumasu, Takeshi; Nakamura, Kazuhiro; Kawahara, Yoshiharu

PATENT ASSIGNEE(S): Kao Corp., Japan

SOURCE: Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

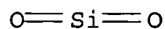
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 320132	A2	19890614	EP 1988-310883	19881118 <--
EP 320132	A3	19900328		
EP 320132	B1	19950621		
R: CH, DE, ES, GB, LI, NL				
JP 01153090	A2	19890615	JP 1987-311549	19871209 <--
JP 07010231	B4	19950208		
JP 01153091	A2	19890615	JP 1987-311550	19871209 <--
JP 07010232	B4	19950208		
JP 01153097	A2	19890615	JP 1987-311551	19871209 <--
JP 06065312	B4	19940824		
JP 01174384	A2	19890710	JP 1987-335854	19871228 <--
JP 07012310	B4	19950215		
ES 2073405	T3	19950816	ES 1988-310883	19881118 <--

PRIORITY APPLN. INFO.:
 JP 1987-311549 A 19871209
 JP 1987-311550 A 19871209
 JP 1987-311551 A 19871209
 JP 1987-335854 A 19871228

AB Lipases, which may be used for esterification or interesterification, are immobilized on an insol. carrier that has been pretreated with fatty acids or their derivs. Rhizopus japonicus lipase was immobilized on a weak anion exchange resin (phenol/formaldehyde resin: Duolite A-568) pretreated with oleic acid with 96% recovery of activity. A mixture of glycerol and oleic acid was incubated with the immobilized enzyme. After 3 h the esterification ratio was 87.0%. With lipase immobilized on an untreated carrier, there was 66.2% recovery of activity and 11.0% esterification ratio. When incubated with palm oil and stearic acid, the immobilized enzyme produced .apprx.2-fold more diglycerides than the control.

IT 7631-86-9, Silica, biological studies 9003-35-4, Duolite ES-562
 RL: BIOL (Biological study)
 (fatty acid- or fatty acid ester-treated, immobilization of lipases on)

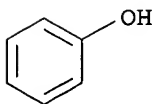
RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 9003-35-4 HCAPLUS
 CN Phenol, polymer with formaldehyde (9CI) (CA INDEX NAME)

CM 1

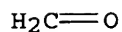
CRN 108-95-2
 CMF C6 H6 O



CM 2

CRN 50-00-0

CMF C H2 O



IT 1338-43-8, Sorbitan monooleate

RL: BIOL (Biological study)

(insol. carrier pretreated with, immobilization of lipases on)

RN 1338-43-8 HCAPLUS

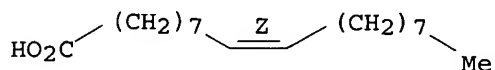
CN Sorbitan, mono-(9Z)-9-octadecenoate (9CI) (CA INDEX NAME)

CM 1

CRN 112-80-1

CMF C18 H34 O2

Double bond geometry as shown.

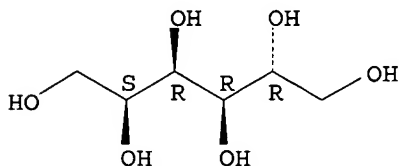


CM 2

CRN 50-70-4

CMF C6 H14 O6

Absolute stereochemistry.



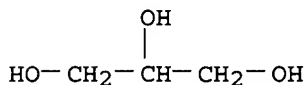
IT 56-81-5, Glycerol, biological studies

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with higher fatty acids, immobilized lipase for)

RN 56-81-5 HCAPLUS

CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



DOCUMENT NUMBER: 105:191393
 TITLE: 2-Substituted-1,3-propyridenediphosphonate derivatives
 and pharmaceutical compositions containing them
 INVENTOR(S): Nguyen Mong Lan; Niesor, Eric; Bentzen, Craig L.;
 Guyon-Gellin, Yves; Kalathakis, Kyriacos; Phan Hieu
 Trung; Rossier, Jean Robert
 PATENT ASSIGNEE(S): Symphar S. A., Switz.
 SOURCE: Eur. Pat. Appl., 134 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 173041	A1	19860305	EP 1985-108670	19850711 <--
EP 173041	B1	19881130		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
CH 664158	A	19880215	CH 1984-3488	19840718 <--
AT 38991	E	19881215	AT 1985-108670	19850711 <--
NO 8502822	A	19860120	NO 1985-2822	19850715 <--
HU 38950	A2	19860728	HU 1985-2714	19850715 <--
HU 193791	B	19871130		
IL 75807	A1	19890910	IL 1985-75807	19850715 <--
ZA 8505357	A	19860226	ZA 1985-5357	19850716 <--
US 4696920	A	19870929	US 1985-755712	19850716 <--
DK 8503241	A	19860119	DK 1985-3241	19850717 <--
FI 8502806	A	19860119	FI 1985-2806	19850717 <--
FI 79327	B	19890831		
FI 79327	C	19891211		
AU 8545114	A1	19860123	AU 1985-45114	19850717 <--
AU 581442	B2	19890223		
ES 545330	A1	19861216	ES 1985-545330	19850717 <--
SU 1375141	A3	19880215	SU 1985-3926752	19850717 <--
CS 262421	B2	19890314	CS 1985-5305	19850717 <--
CA 1284320	A1	19910521	CA 1985-486929	19850717 <--
JP 61040294	A2	19860226	JP 1985-157081	19850718 <--
JP 05041155	B4	19930622		
CN 85106701	A	19870325	CN 1985-106701	19850905 <--
CN 1009199	B	19900815		

PRIORITY APPLN. INFO.: CH 1984-3488 A 19840718
 EP 1985-108670 A 19850711

OTHER SOURCE(S): CASREACT 105:191393

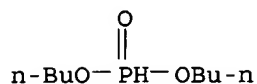
AB Title derivs. RCH[CH₂P(O)(OR₁)(OR₂)]₂ [I; R = (un)substituted alkyl, aralkyl, etc.; R₁, R₂ = H, metal ion, alkyl, etc.] are prepared as slow Ca-channel inhibitors for treatment of cardiovascular conditions. Thus, PhOCH₂CH₂Br and NaCH(CO₂Et)₂ reacted to give 72% PhOCH₂CH₂CH(CO₂Et)₂, which was reduced by LiAlH₄ to give 62% PhOCH₂CH₂CH(CH₂OH)₂. Tosylation of the diol gave 82% of the corresponding ditosylate, which reacted with NaP(O)(OBu)₂ to give 55-60% I (R = PhOCH₂CH₂, R₁ = R₂ = Bu) (II). At 1.0 μM, II completely inhibited the binding of 3H-nitrendipine to homogenized rat cerebral membranes. I also exhibited antihypertensive and muscle-relaxant activities. An exemplary gelatin capsule consisted of II 300, gelatin 100, glycerin 50, and K sorbate 0.5 mg/capsule.

IT 1809-19-4

RL: PROC (Process)
 (conversion of, to sodium salt)

RN 1809-19-4 HCAPLUS

CN Phosphonic acid, dibutyl ester (8CI, 9CI) (CA INDEX NAME)

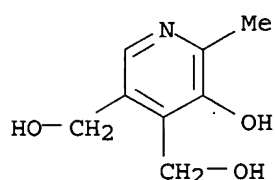


IT 58-56-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(isopropylidenation of)

RN 58-56-0 HCAPLUS

CN 3,4-Pyridinedimethanol, 5-hydroxy-6-methyl-, hydrochloride (9CI) (CA INDEX NAME)



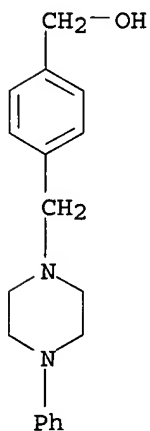
● HCl

IT 103487-34-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and bromination of)

RN 103487-34-9 HCAPLUS

CN Benzenemethanol, 4-[(4-phenyl-1-piperazinyl)methyl]- (9CI) (CA INDEX NAME)

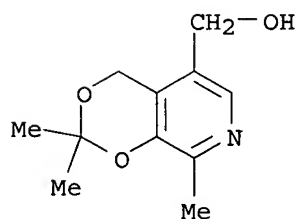


IT 1136-52-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and chlorination of)

RN 1136-52-3 HCAPLUS

CN 4H-1,3-Dioxino[4,5-c]pyridine-5-methanol, 2,2,8-trimethyl- (9CI) (CA INDEX NAME)

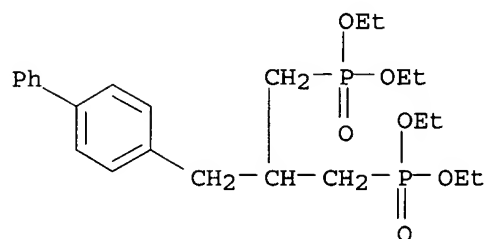


IT 103486-47-1P 103486-53-9P 103486-55-1P
103486-56-2P 103486-84-6P 103486-98-2P
103487-04-3P 103487-05-4P 103514-84-7P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of, as cardiovascular agent)

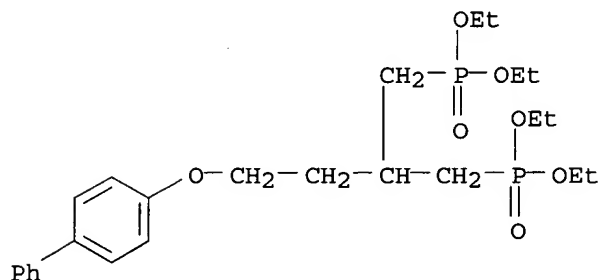
RN 103486-47-1 HCAPLUS

CN Phosphonic acid, [2-([1,1'-biphenyl]-4-ylmethyl)-1,3-propanediyl]bis-, tetraethyl ester (9CI) (CA INDEX NAME)



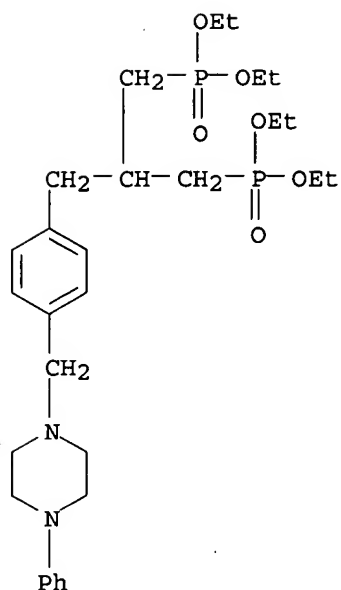
RN 103486-53-9 HCAPLUS

CN Phosphonic acid, [2-[2-([1,1'-biphenyl]-4-yloxy)ethyl]-1,3-propanediyl]bis-, tetraethyl ester (9CI) (CA INDEX NAME)



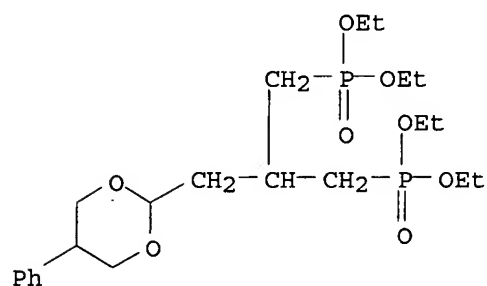
RN 103486-55-1 HCAPLUS

CN Phosphonic acid, [2-[4-[(4-phenyl-1-piperazinyl)methyl]phenyl]methyl]-1,3-propanediyl]bis-, tetraethyl ester (9CI) (CA INDEX NAME)



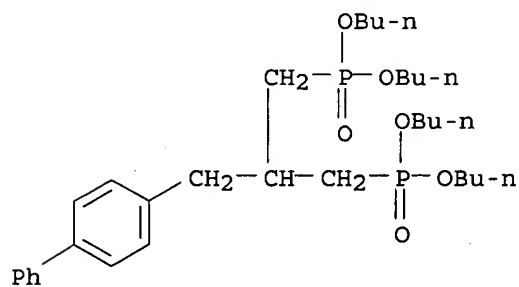
RN 103486-56-2 HCAPLUS

CN Phosphonic acid, [2-[(5-phenyl-1,3-dioxan-2-yl)methyl]-1,3-propanediyl]bis-, tetraethyl ester (9CI) (CA INDEX NAME)



RN 103486-84-6 HCAPLUS

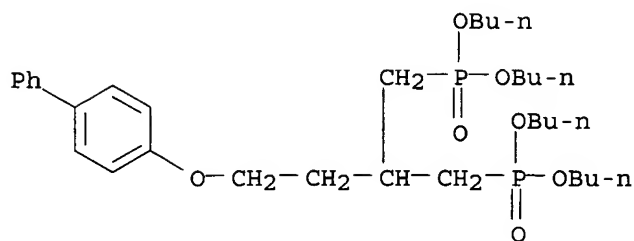
CN Phosphonic acid, [2-([1,1'-biphenyl]-4-ylmethyl)-1,3-propanediyl]bis-, tetrabutyl ester (9CI) (CA INDEX NAME)



RN 103486-98-2 HCAPLUS

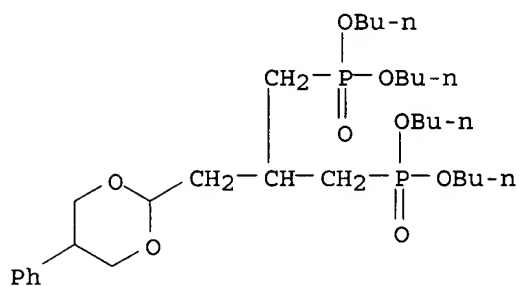
CN Phosphonic acid, [2-[2-([1,1'-biphenyl]-4-yloxy)ethyl]-1,3-propanediyl]bis-

, tetrabutyl ester (9CI) (CA INDEX NAME)



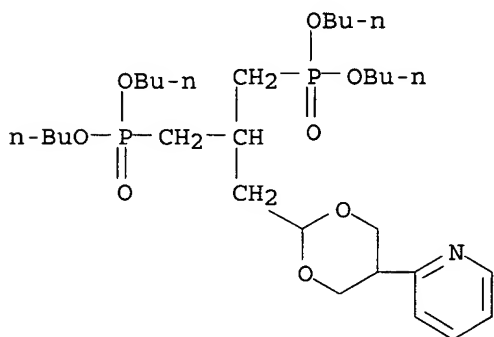
RN 103487-04-3 HCAPLUS

CN Phosphonic acid, [2-[(5-phenyl-1,3-dioxan-2-yl)methyl]-1,3-propanediyl]bis-, tetrabutyl ester (9CI) (CA INDEX NAME)



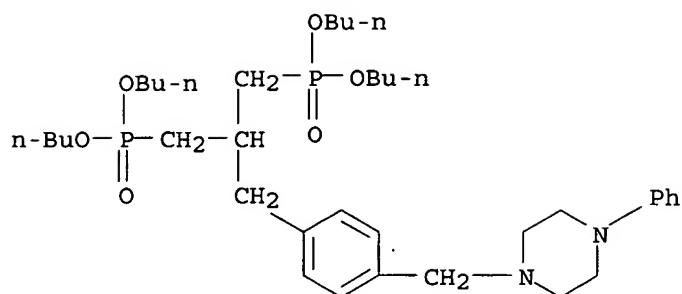
RN 103487-05-4 HCAPLUS

CN Phosphonic acid, [2-[[5-(2-pyridinyl)-1,3-dioxan-2-yl]methyl]-1,3-propanediyl]bis-, tetrabutyl ester (9CI) (CA INDEX NAME)



RN 103514-84-7 HCAPLUS

CN Phosphonic acid, [2-[[4-[(4-phenyl-1-piperazinyl)methyl]phenyl]methyl]-1,3-propanediyl]bis-, tetrabutyl ester (9CI) (CA INDEX NAME)



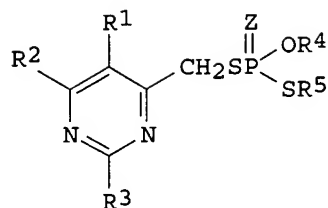
IT 71-41-0, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with phosphorus trichloride)
 RN 71-41-0 HCAPLUS
 CN 1-Pentanol (9CI) (CA INDEX NAME)

Me- (CH₂)₄-OH

L38 ANSWER 30 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1985:45969 HCAPLUS
 DOCUMENT NUMBER: 102:45969
 TITLE: Pyrimidine derivatives and their use as pesticides
 INVENTOR(S): Luethy, Christoph
 PATENT ASSIGNEE(S): Hoffmann-La Roche, F., und Co. A.-G., Switz.
 SOURCE: Eur. Pat. Appl., 76 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 114045	A1	19840725	EP 1984-100062	19840104 <--
EP 114045	B1	19860903		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AU 8322781	A1	19840712	AU 1983-22781	19831222 <--
US 4584295	A	19860422	US 1983-566104	19831227 <--
ZA 8309717	A	19840829	ZA 1983-9717	19831229 <--
DK 8400023	A	19840708	DK 1984-23	19840103 <--
AT 21907	E	19860915	AT 1984-100062	19840104 <--
ES 528700	A1	19851101	ES 1984-528700	19840105 <--
NO 8400053	A	19840709	NO 1984-53	19840106 <--
BR 8400065	A	19840814	BR 1984-65	19840106 <--
JP 59130897	A2	19840727	JP 1984-1248	19840107 <--
PRIORITY APPLN. INFO.:			CH 1983-89	A 19830107
			CH 1983-6214	A 19831118
			EP 1984-100062	A 19840104

GI

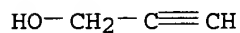


AB Pyrimidine derivs. I [R1 = H, F, Cl; R2 = R1, C1-4 alkyl, C1-6 alkoxy, 2-propenyloxy, 2-propynyloxy, 2-(C1-4 alkoxy)ethoxy, halo (un)substituted PhO, C1-6 alkylthio, alkylamino, di(C1-4 alkyl)amino, OC(Z1)NR6R7, OP(S)(OR8)(OR9); R3 = R1, C1-6 alkyl, C3-6 cycloalkyl, (C1-4 alkoxy)methyl, (C1-4 alkylthio)methyl, C1-6 alkoxy, 2-propenyloxy, 2-propynyloxy, C1-6 alkylthio, C1-4 alkylamino, di(C1-4 alkyl)amino, Ph (un)substituted with F, Cl, CF3, and(or) MeO; R4 = C1-3 alkyl; R5 = C1-6 alkyl; R6 and R7 or R8 and R9 independently = C1-3 alkyl; Z, Z1 independently = O, S], useful as insecticides, nematocides, and acaricides (no data), were prepared by many methods. O-Alkylating 4-hydroxy-6-(chloromethyl)-2-methylpyrimidine with (EtO)2SO2 and K2CO3 in refluxing Me2CO 6 h gave the 4-ethoxy analog which reacted with KSP(O)(OEt)SPr in Me2CO containing a small amount of NaI 12 h at 45° to give I (R1 = H, R2 = EtO, R3 = Me, R4 = Et, R5 = Pr, Z = O).

IT 107-19-7 108-95-2, reactions 109-86-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (etherification by, of chloropyrimidine derivs.)

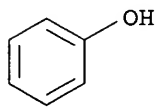
RN 107-19-7 HCAPLUS

CN 2-Propyn-1-ol (8CI, 9CI) (CA INDEX NAME)



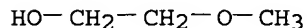
RN 108-95-2 HCAPLUS

CN Phenol (8CI, 9CI) (CA INDEX NAME)



RN 109-86-4 HCAPLUS

CN Ethanol, 2-methoxy- (8CI, 9CI) (CA INDEX NAME)

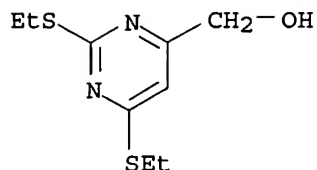


IT 94171-06-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, with thionyl chloride)

RN 94171-06-9 HCAPLUS

CN 4-Pyrimidinemethanol, 2,6-bis(ethylthio)- (9CI) (CA INDEX NAME)

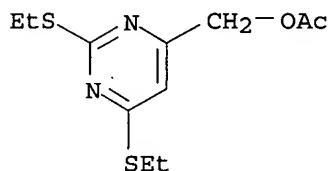


IT 94171-05-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and saponification of)

RN 94171-05-8 HCAPLUS

CN 4-Pyrimidinemethanol, 2,6-bis(ethylthio)-, acetate (ester) (9CI) (CA INDEX NAME)

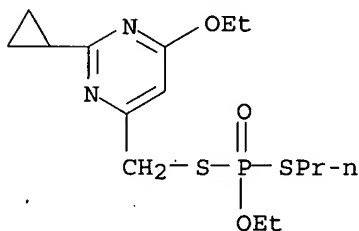


IT 94145-26-3P 94145-42-3P 94145-48-9P
94145-49-0P

RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of, as insecticide, acaricide, and(or) nematocide)

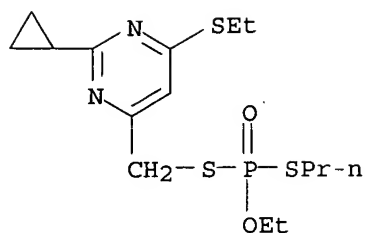
RN 94145-26-3 HCAPLUS

CN Phosphorodithioic acid, S-[(2-cyclopropyl-6-ethoxy-4-pyrimidinyl)methyl] O-ethyl S-propyl ester (9CI) (CA INDEX NAME)

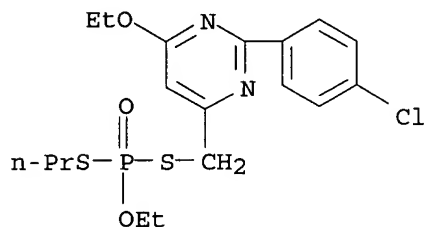


RN 94145-42-3 HCAPLUS

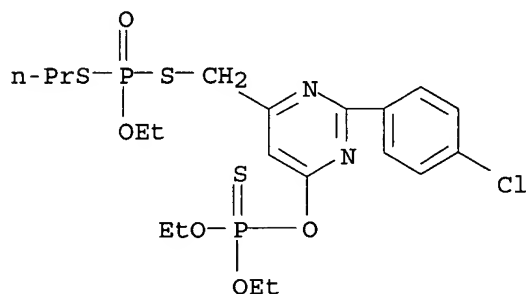
CN Phosphorodithioic acid, S-[[2-cyclopropyl-6-(ethylthio)-4-pyrimidinyl)methyl] O-ethyl S-propyl ester (9CI) (CA INDEX NAME)



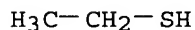
RN 94145-48-9 HCAPLUS
 CN Phosphorodithioic acid, S-[[2-(4-chlorophenyl)-6-ethoxy-4-pyrimidinyl]methyl] O-ethyl S-propyl ester (9CI) (CA INDEX NAME)



RN 94145-49-0 HCAPLUS
 CN Phosphorothioic acid, O-[2-(4-chlorophenyl)-6-[[[ethoxy(propylthio)phosphinyl]thio]methyl]-4-pyrimidinyl] O,O-diethyl ester (9CI) (CA INDEX NAME)

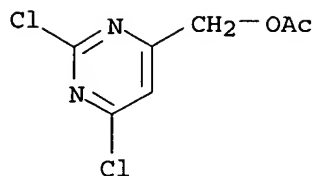


IT 75-08-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (thioetherification by, of dichloropyrimidine)
 RN 75-08-1 HCAPLUS
 CN Ethanethiol (8CI, 9CI) (CA INDEX NAME)

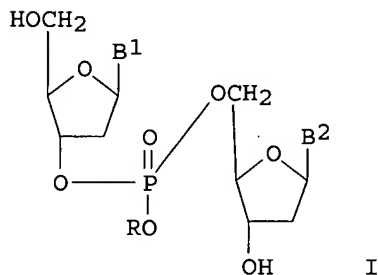


IT 94171-04-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (thioetherification of, with ethylmercaptan)
 RN 94171-04-7 HCAPLUS
 CN 4-Pyrimidinemethanol, 2,6-dichloro-, acetate (ester) (9CI) (CA INDEX NAME)

NAME)



L38 ANSWER 31 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1983:612861 HCAPLUS
 DOCUMENT NUMBER: 99:212861
 TITLE: Synthesis of triester analogs of
 di(deoxynucleoside)phosphates containing hydroxylamine
 residue
 AUTHOR(S): Petrenko, V. A.; Pozdnyakov, P. I.
 CORPORATE SOURCE: Novosibirsk Reg., All-Union Inst. Mol. Biol.,
 Koltsovo, USSR
 SOURCE: Bioorganicheskaya Khimiya (1983), 9(6),
 832-7
 CODEN: BIKHD7; ISSN: 0132-3423
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 GI



AB 4-(Aminooxy)butyl esters of di(deoxynucleoside)phosphates, d[Tp(NH₂OBu)T], d[Tp(NH₂OBu)C], d[Ap(NH₂OBu)T], and d[Gp(NH₂OBu)T] were prepared in 30-60% yields via transesterification of the chlorophenyl esters of di(deoxynucleoside)phosphate blocked derivs. in the presence of CsF and 4-(aminooxy)-1-butanol. Thus, transesterification of I (B1 = B2 = thymine, R = 4-ClC₆H₄) was treated with HO(CH₂)₄ONH₂ to give I [R = H₂NO(CH₂)₄]. The structures of the triester analogs were confirmed by their UV spectra and by reactions with picryl chloride, Me₂CO, 4-(Me₂N)C₆H₄CHO and Dishe reagent. Use of the oligonucleotide aminooxybutyl triester analogs as affinity mutagens is discussed.

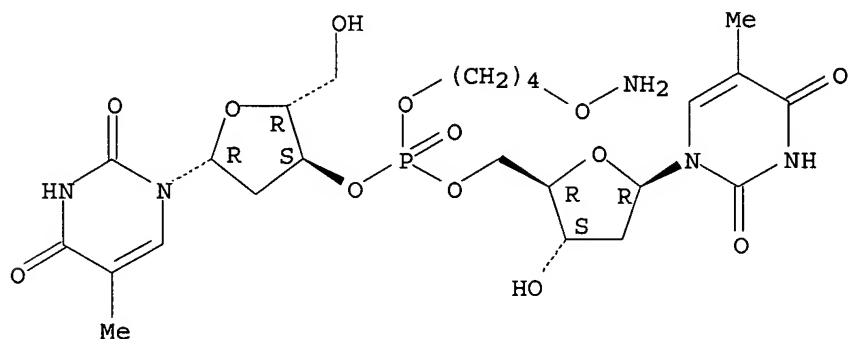
IT 87903-51-3P 87903-52-4P 87903-53-5P
 87903-54-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction with acetone and (dimethylamino)benzaldehyde)

RN 87903-51-3 HCAPLUS

CN Thymidine, P-[4-(aminooxy)butyl]thymidylyl-(3'→5')- (9CI) (CA INDEX NAME)

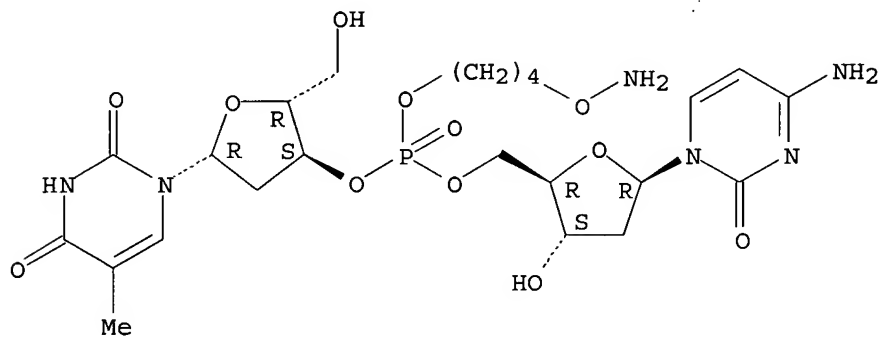
Absolute stereochemistry.



RN 87903-52-4 HCAPLUS

CN Cytidine, P-[4-(aminooxy)butyl]thymidylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

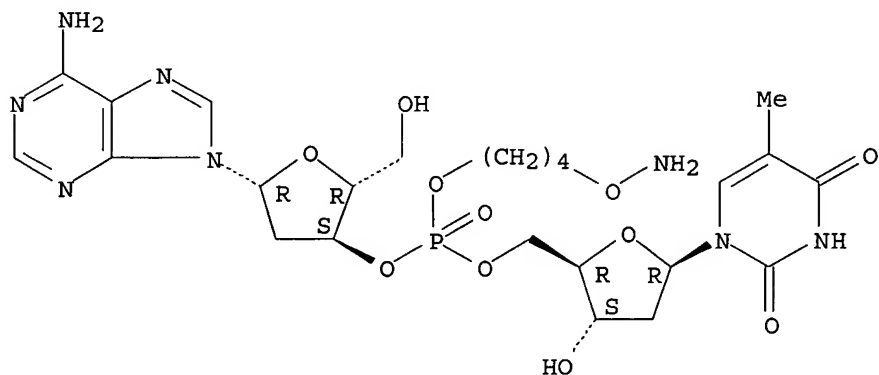
Absolute stereochemistry.



RN 87903-53-5 HCAPLUS

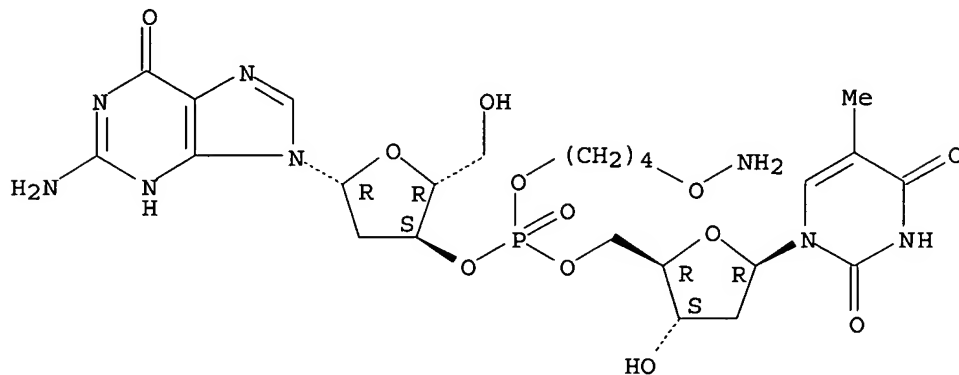
CN Thymidine, P-[4-(aminooxy)butyl]-2'-deoxyadenylyl-(3'→5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 87903-54-6 HCAPLUS
 CN Thymidine, P-[4-(aminooxy)butyl]-2'-deoxyguanylyl-(3'→5')- (9CI)
 (CA INDEX NAME)

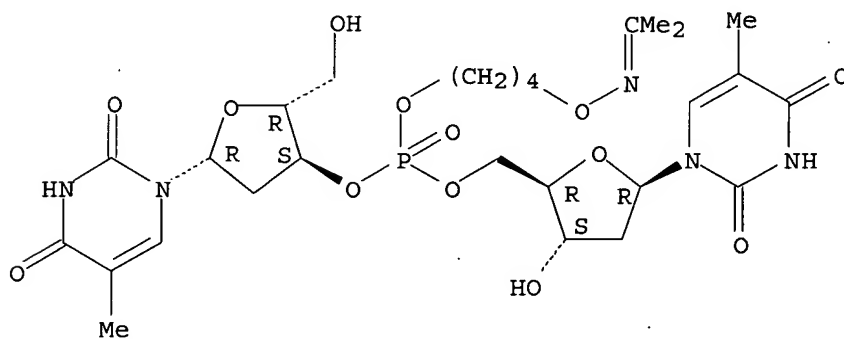
Absolute stereochemistry.



IT 87903-57-9P 87903-58-0P 87903-59-1P
 87903-60-4P 87903-61-5P 87903-62-6P
 87903-63-7P 87903-64-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

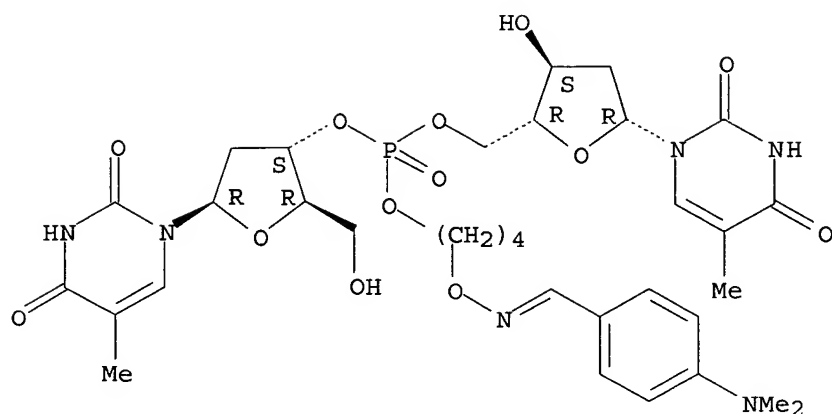
RN 87903-57-9 HCAPLUS
 CN Thymidine, P-[4-[[[(1-methylethylidene)amino]oxy]butyl]thymidylyl-
 (3'→5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 87903-58-0 HCAPLUS
 CN Thymidine, P-[4-[[[[4-(dimethylamino)phenyl]methylene]amino]oxy]butyl]thymidylyl-(3'→5')- (9CI) (CA INDEX NAME)

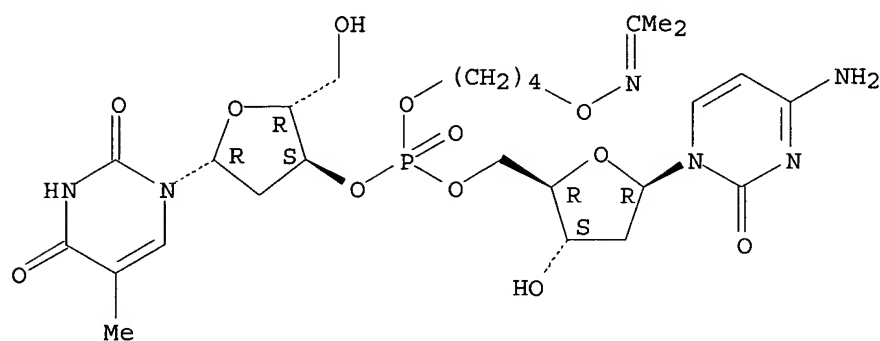
Absolute stereochemistry.
 Double bond geometry unknown.



RN 87903-59-1 HCAPLUS

CN Cytidine, P-[4-[[[(1-methylethylidene)amino]oxy]butyl]thymidyl-
(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

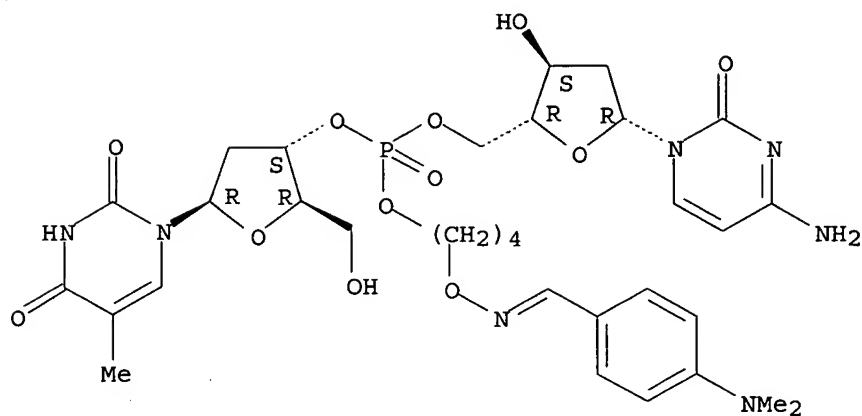


RN 87903-60-4 HCAPLUS

CN Cytidine, P-[4-[[[4-(dimethylamino)phenyl]methylene]amino]oxy]butyl]thymi-
dyl- (3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

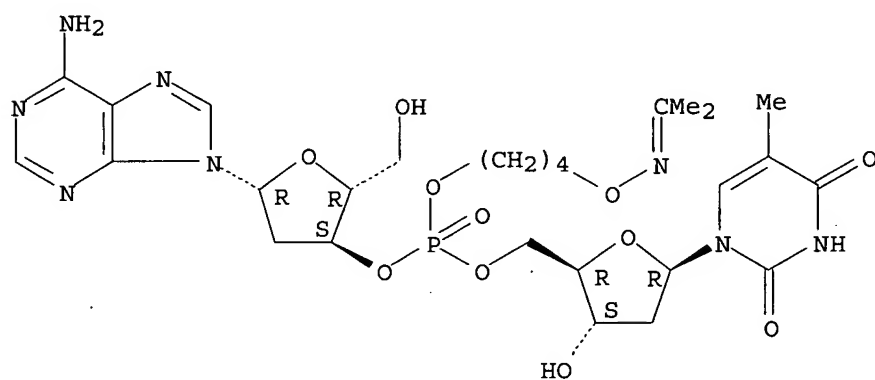
Double bond geometry unknown.



RN 87903-61-5 HCAPLUS

CN Thymidine, 2'-deoxy-P-[4-[[[(1-methylethylidene)amino]oxy]butyl]adenylyl-(3'→5')-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

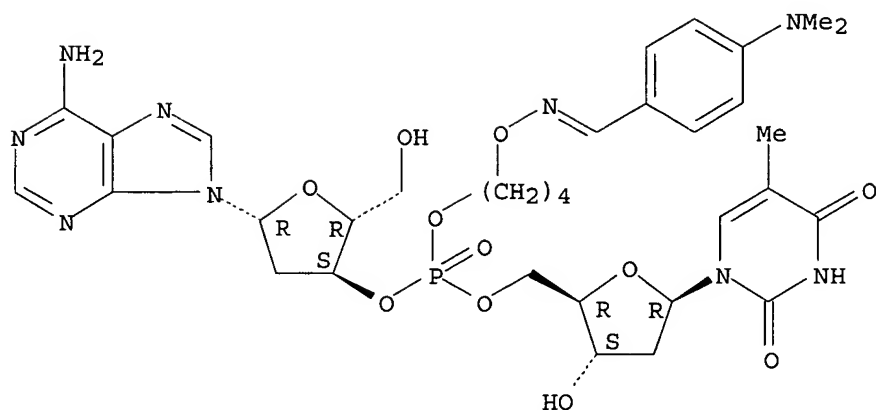


RN 87903-62-6 HCAPLUS

CN Thymidine, 2'-deoxy-P-[4-[[[4-(dimethylamino)phenyl]methylene]amino]oxy]butyladenylyl-(3'→5')-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

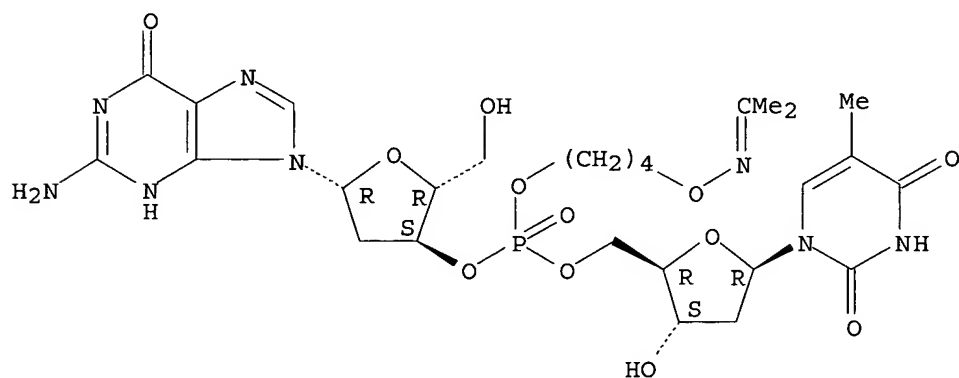
Double bond geometry unknown.



RN 87903-63-7 HCAPLUS

CN Thymidine, 2'-deoxy-P-[4-[[[(1-methylethylidene)amino]oxy]butyl]guanylyl-(3'→5')-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

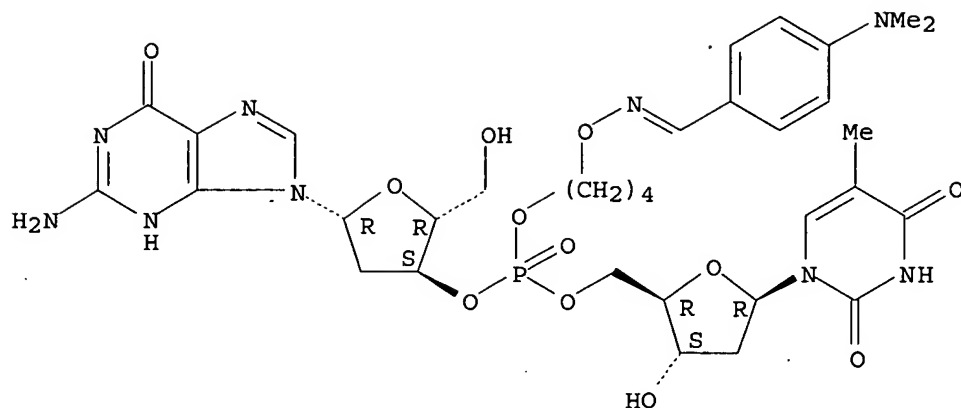


RN 87903-64-8 HCAPLUS

CN Thymidine, 2'-deoxy-P-[4-[[[4-(dimethylamino)phenyl]methylene]amino]oxy]butyl]guanylyl-(3'→5')-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry unknown.



IT 62420-43-3 87903-48-8 87903-49-9

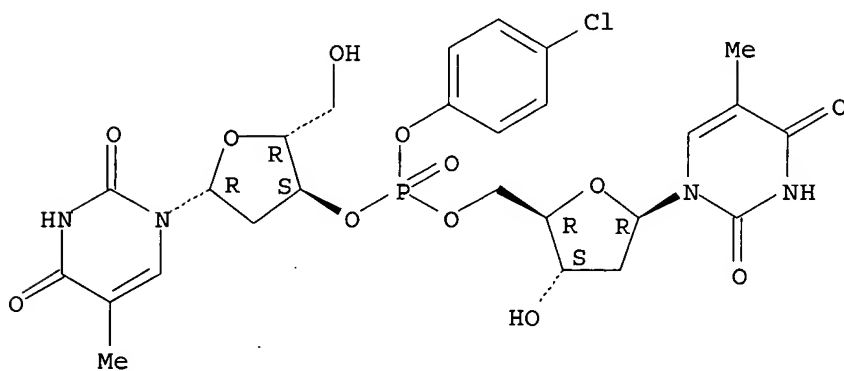
87903-50-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(transesterification of, by (aminooxy)butanol)

RN 62420-43-3 HCAPLUS

CN Thymidine, P-(4-chlorophenyl)thymidylyl-(3'→5')- (9CI) (CA INDEX NAME)

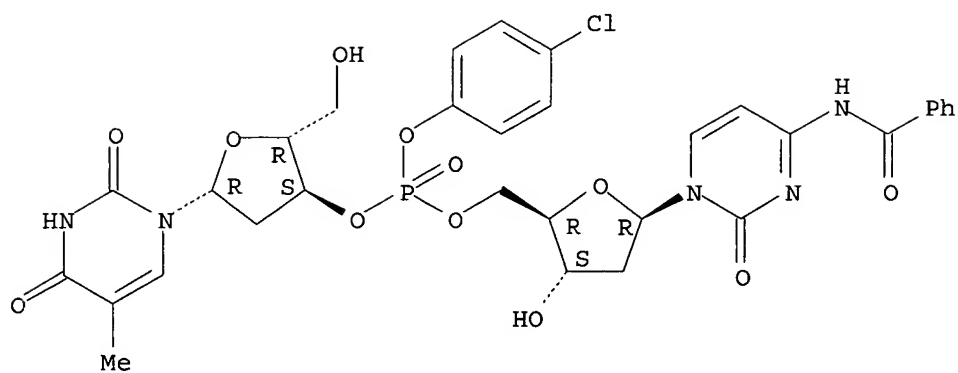
Absolute stereochemistry.



RN 87903-48-8 HCAPLUS

CN Cytidine, P-(4-chlorophenyl)thymidylyl-(3'→5')-N-benzoyl-2'-deoxy- (9CI) (CA INDEX NAME)

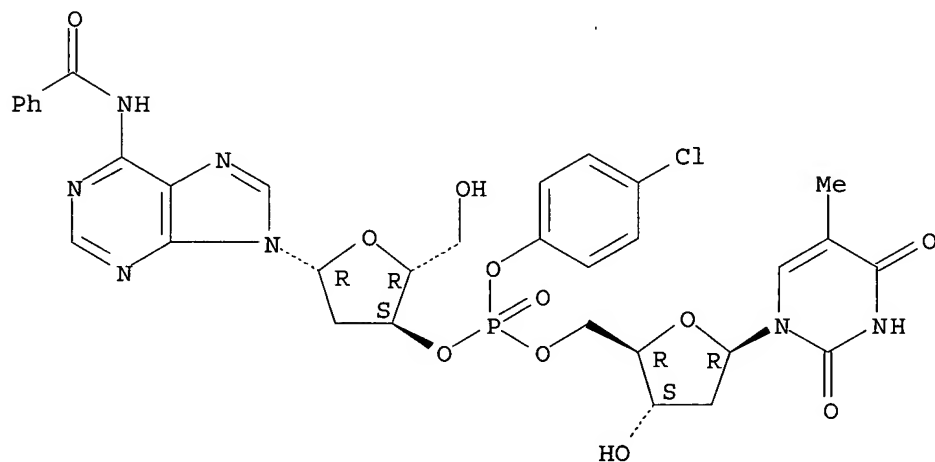
Absolute stereochemistry.



RN 87903-49-9 HCAPLUS

CN Thymidine, N-benzoyl-P-(4-chlorophenyl)-2'-deoxyadenylyl-(3'→5')-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.

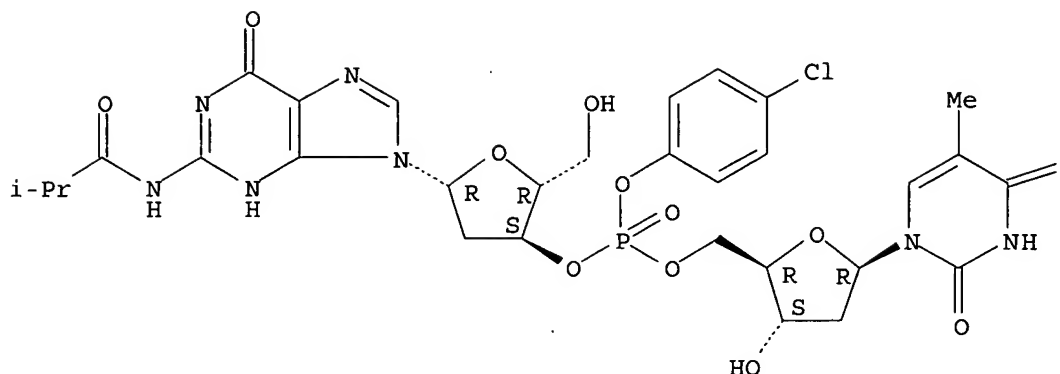


RN 87903-50-2 HCAPLUS

CN Thymidine, P-(4-chlorophenyl)-2'-deoxy-N-(2-methyl-1-oxopropyl)guanylyl-
(3'→5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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PAGE 1-B

=O

L38 ANSWER 32 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1981:533293 HCAPLUS

DOCUMENT NUMBER: 95:133293

TITLE: Positively charged analogs of oligonucleotides.
 Synthesis of aminoethyl triester derivatives of
 oligothymidylates and study of their complex-forming
 properties

AUTHOR(S): Danilyuk, N. K.; Petrenko, V. A.; Pozdnyakov, P. I.;
 Sivolobova, G. F.; Shubina, T. N.

CORPORATE SOURCE: Cent. Board Microbiol. Ind., All-Union Inst. Mol.
 Biol., Novosibirsk, USSR

SOURCE: Bioorganicheskaya Khimiya (1981), 7(5),
 703-9

CODEN: BIKHD7; ISSN: 0132-3423

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB A method for preparing triester alkyl derivs. of oligonucleotides was described which is based on oligonucleotide chlorophenyl ester reaction with amino **alcs.** in polar organic solvents in the presence of CsF or Bu₄N⁺F⁻. The latter compound is a more effective catalyst than CsF for transesterification. The amino group was inert under conditions of **alcoholysis**. 6-Aminoethyl triester analogs of thymidyl- and pentathymidyl-(3→5)-thymidine were prepared. Complexing with polydeoxyadenylic acid was studied for aminoethyl and Et triester analogs, [Tp(nhx)]5T (nhx = 6-aminoethyl), [Tp(Et)]5T, and for [Tp]5T. A complex formed with pos. charged oligonucleotide [Tp(nhx)]5T had a higher thermal stability than those involving neg. charged [Tp]5T or neutral [Tp(Et)]5T.

IT 79105-43-4P

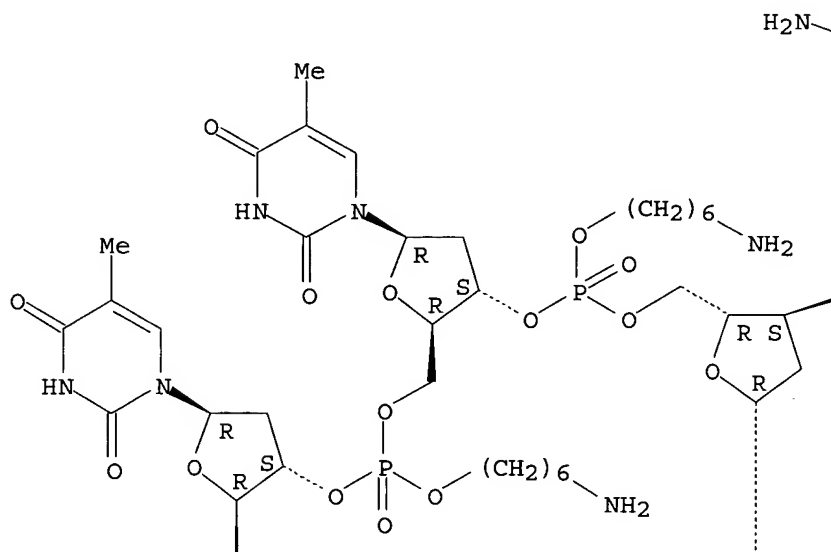
RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and complex-forming properties with polydeoxyadenylates)

RN 79105-43-4 HCAPLUS

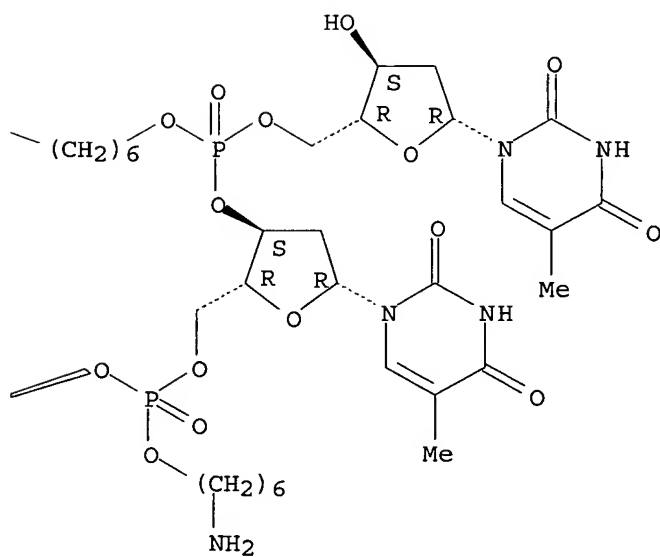
CN Thymidine, P-(6-aminohexyl)thymidylyl-(3'→5')-P-(6-aminohexyl)thymidylyl-(3'→5')-P-(6-aminohexyl)thymidylyl-(3'→5')-P-(6-aminohexyl)thymidylyl-(3'→5')-P-(6-aminohexyl)thymidylyl-(3'→5')- (9CI) (CA INDEX NAME)

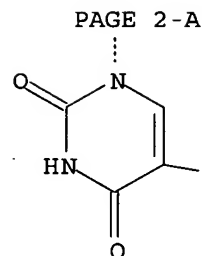
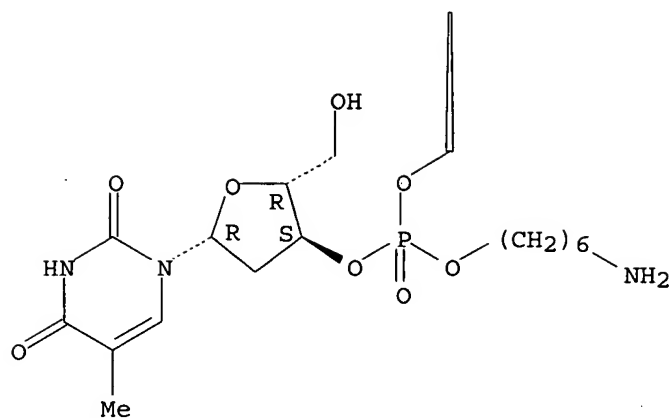
Absolute stereochemistry.

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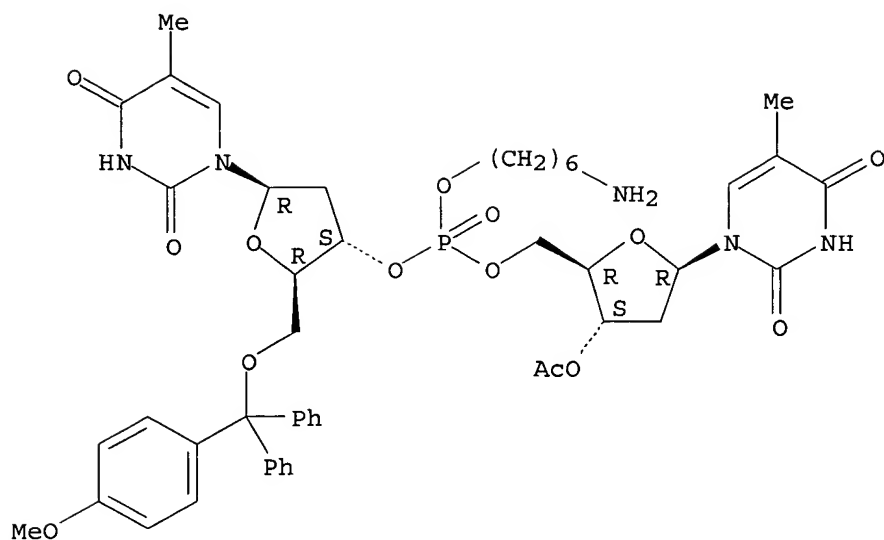


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Me

IT 79087-73-3P 79105-44-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and deprotection of)
 RN 79087-73-3 HCAPLUS
 CN Thymidine, P-(6-aminoethyl)-5'-O-[(4-methoxyphenyl)diphenylmethyl]thymidyl
 yl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

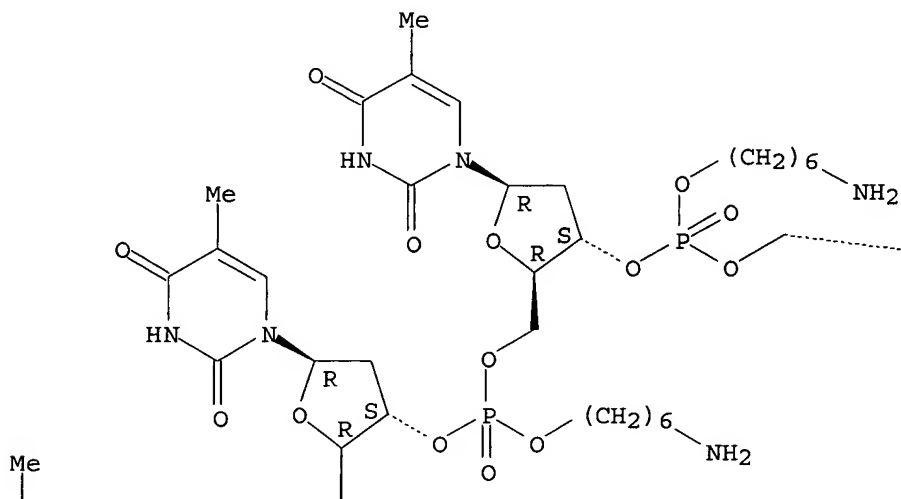


RN 79105-44-5 HCAPLUS

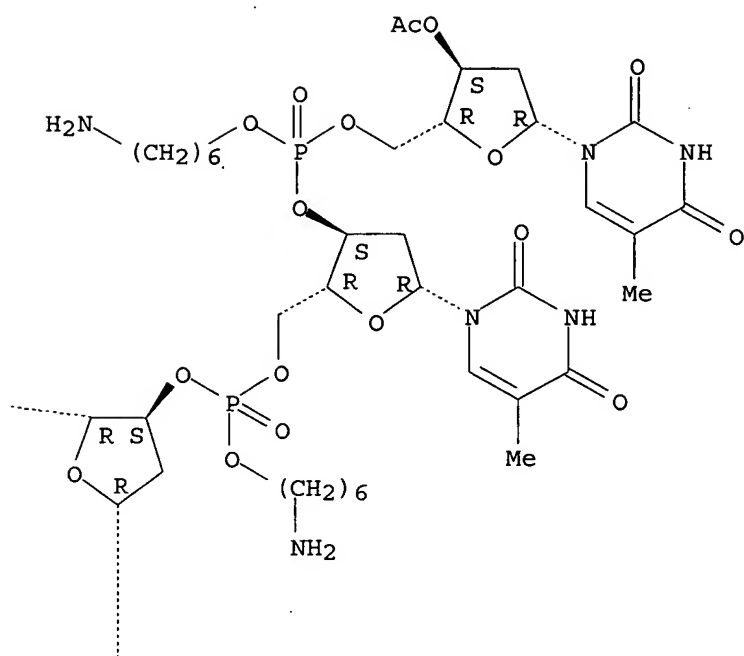
CN Thymidine, P-(6-aminohexyl)-5'-O-[(4-methoxyphenyl)diphenylmethyl]thymidylyl-(3'→5')-P-(6-aminohexyl)thymidylyl-(3'→5')-P-(6-aminohexyl)thymidylyl-(3'→5')-P-(6-aminohexyl)thymidylyl-(3'→5')-P-(6-aminohexyl)thymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

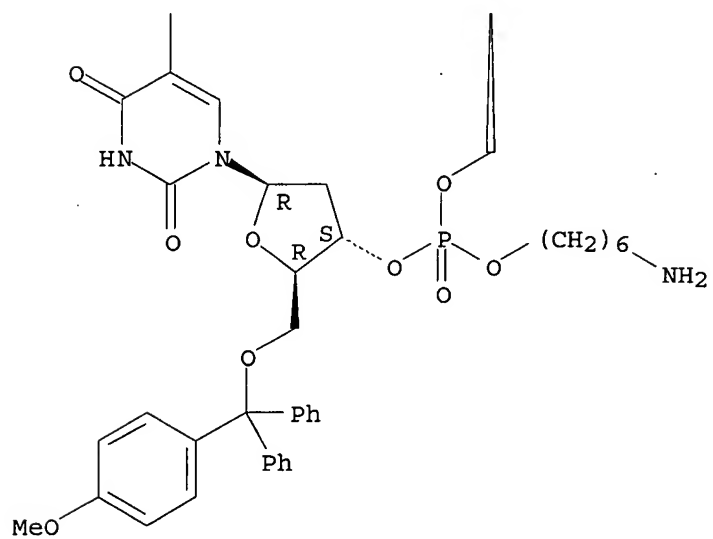
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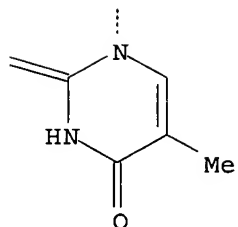


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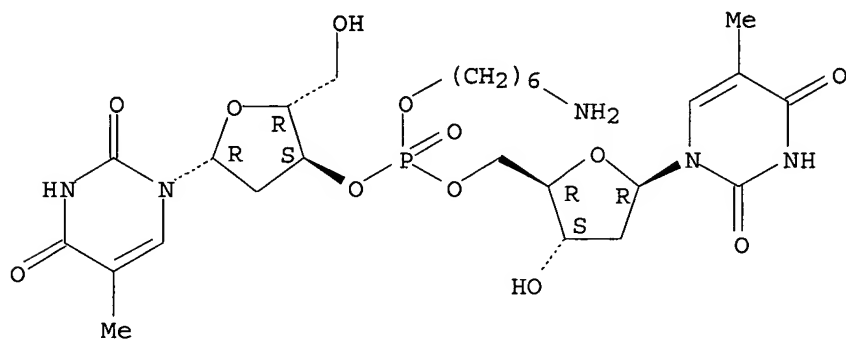
IT 79087-72-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 79087-72-2 HCAPLUS

CN Thymidine, P-(6-aminohexyl)thymidylyl-(3'→5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



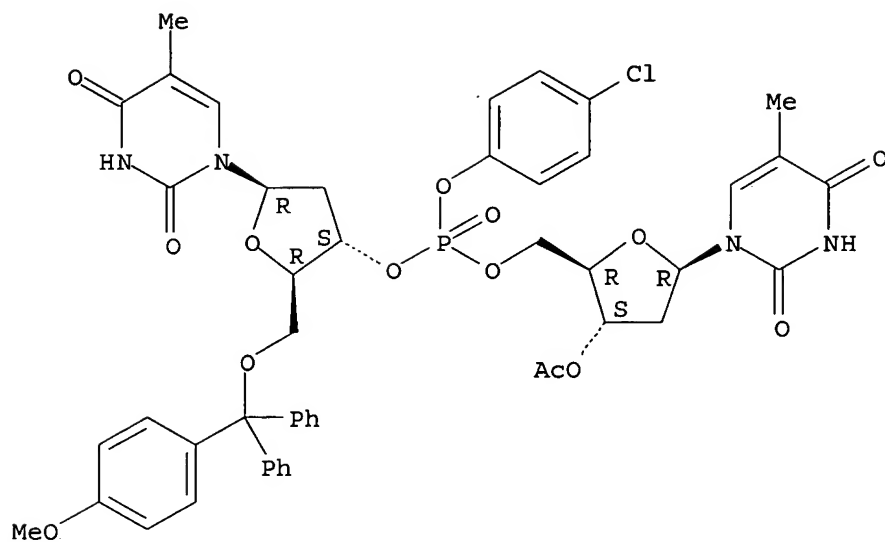
IT 79087-74-4 79105-45-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aminohexanol in presence of cesium fluoride or
tetrabutylammonium fluoride)

RN 79087-74-4 HCAPLUS

CN Thymidine, P-(4-chlorophenyl)-5'-O-[(4-methoxyphenyl)diphenylmethyl]thymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

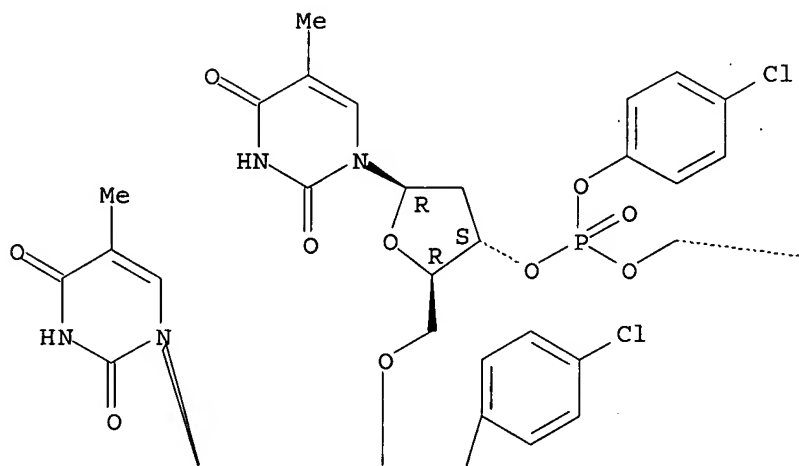


RN 79105-45-6 HCAPLUS

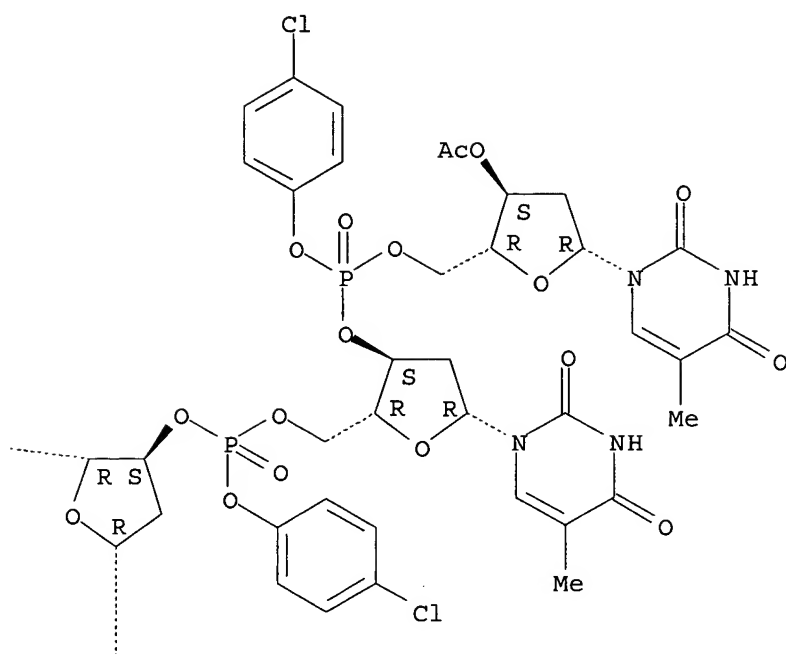
CN Thymidine, P- (4-chlorophenyl) -5'-O- [(4-methoxyphenyl)diphenylmethyl] thymidyl- (3'→5') -P- (4-chlorophenyl) thymidyl- (3'→5') -P- (4-chlorophenyl) thymidyl- (3'→5') -P- (4-chlorophenyl) thymidyl- (3'→5') -P- (4-chlorophenyl) thymidyl- (3'→5') -, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

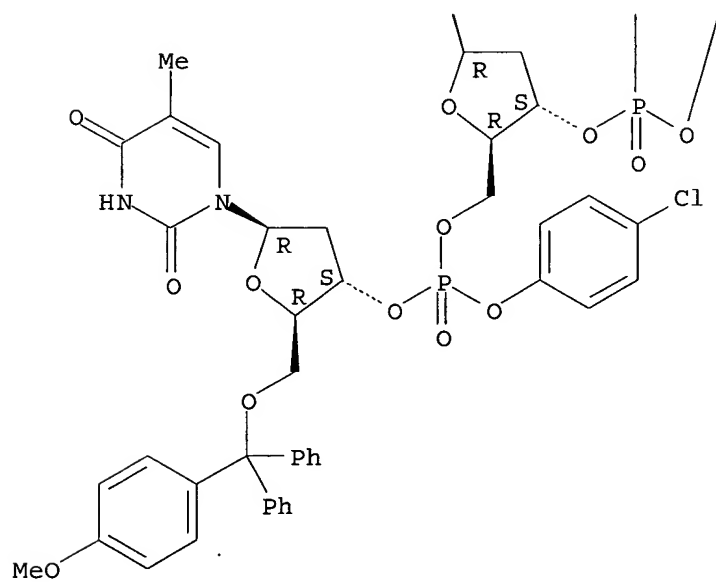
PAGE 1-A

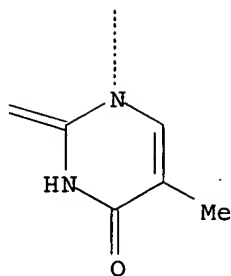


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IT 4048-33-3

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with thymidylates)

RN 4048-33-3 HCAPLUS

CN 1-Hexanol, 6-amino- (6CI, 8CI, 9CI) (CA INDEX NAME)

H₂N⁺ (CH₂)₆ OH

L38 ANSWER 33 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1980:532726 HCAPLUS

DOCUMENT NUMBER: 93:132726

TITLE: Nonionic analogs of oligonucleotides. Synthesis of
alkyl triesters of oligonucleotides by
transesterificationAUTHOR(S): Petrenko, V. A.; Pozdnyakov, P. I.; Sivolobova, G. F.;
Shubina, T. N.CORPORATE SOURCE: Spec. Technol. Bur. Des. Biol. Active Compd.,
Novosibirsk, USSRSOURCE: Bioorganicheskaya Khimiya (1980), 6(3),
431-5

CODEN: BIKHD7; ISSN: 0132-3423

DOCUMENT TYPE: Journal

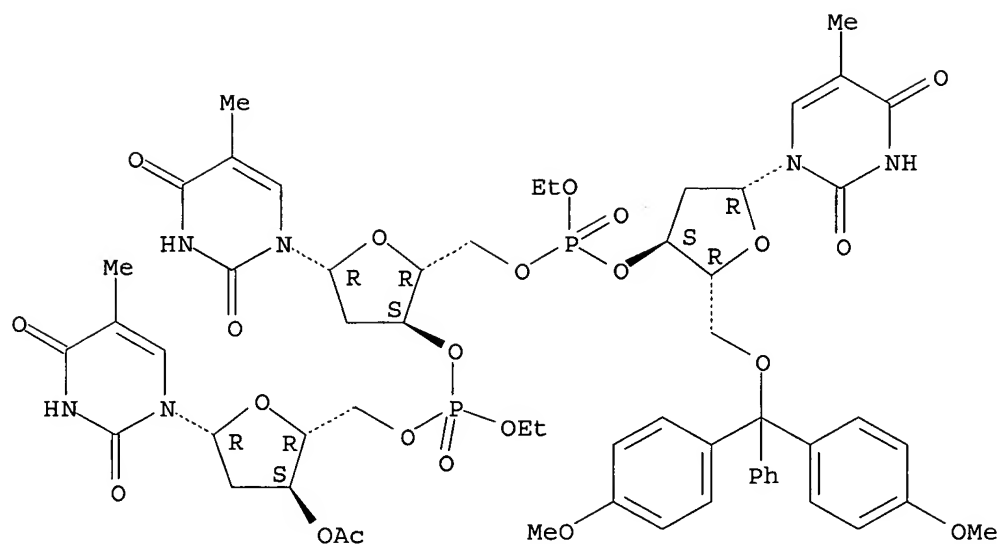
LANGUAGE: Russian

AB Et triester analogs of di-, tri-, hexa-, and nonathymidylates, e.g.,
[(MeO)₂Tr][Tp(Et)]nT(Ac) (Tr = trityl, n = 2,5,8) were prepared by
transesterification of the corresponding oligonucleotide chlorophenyl
derivs. The CsF catalyzed substitution of chlorophenyl by alkyl groups
was complete in 30-40 min at 20°. No significant difference was
observed in reactivity of MeOH, EtOH, Me₂CHOH, and 1,2-isopropylidene
glycerol in the transesterification reaction. The structure of the
oligonucleotide alkyl triester analogs was confirmed by thin-layer
chromatog. and ¹³C NMR spectroscopy.IT 74526-11-7P 74526-12-8P 74526-13-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 74526-11-7 HCAPLUS

CN Thymidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-P-ethylthymidyl-
(3'→5')-P-ethylthymidyl-(3'→5')-, 3'-acetate (9CI) (CA
INDEX NAME)

Absolute stereochemistry.

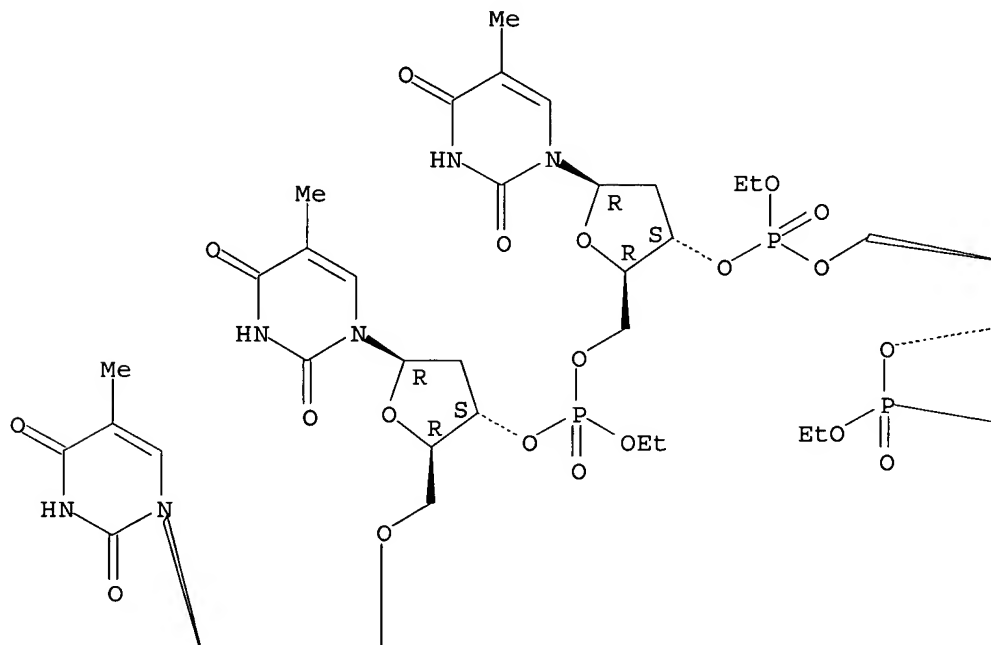


RN 74526-12-8 HCAPLUS

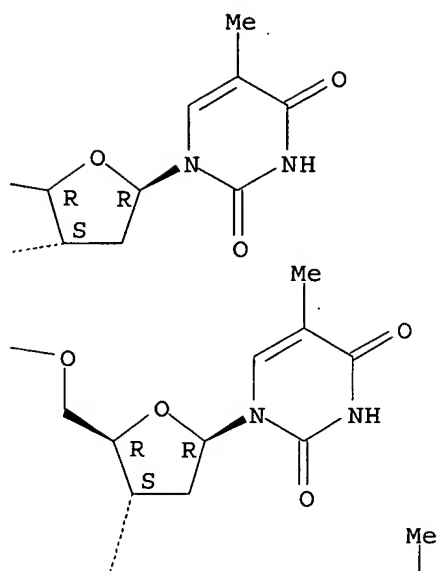
CN Thymidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-P-ethylthymidylyl-(3'→5')-P-ethylthymidylyl-(3'→5')-P-ethylthymidylyl-(3'→5')-P-ethylthymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

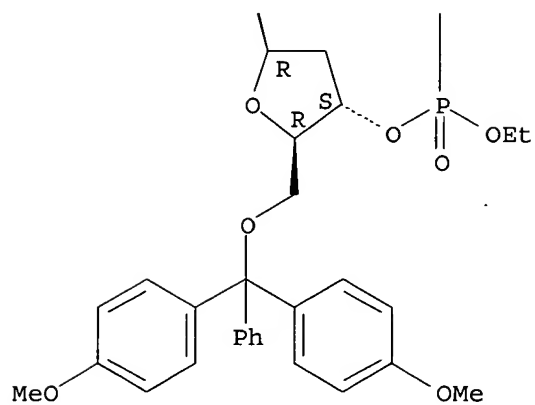
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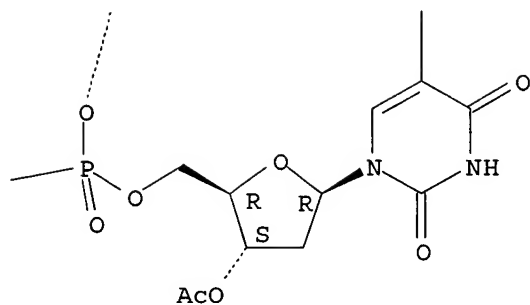


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EtO

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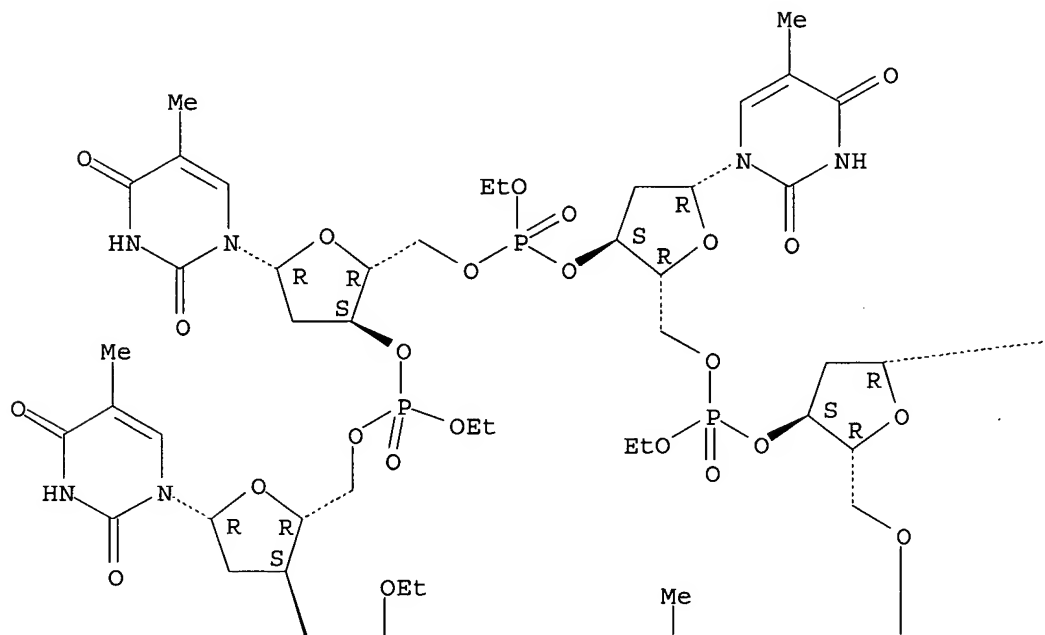


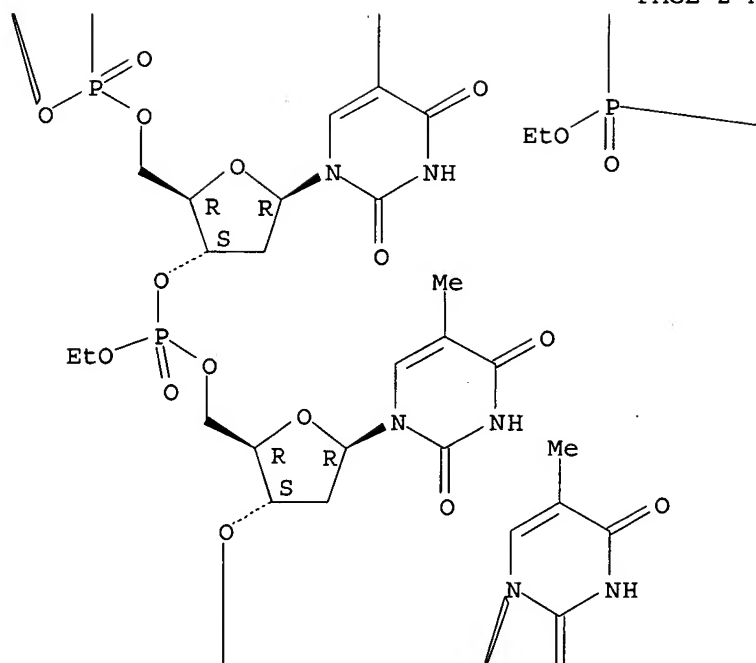
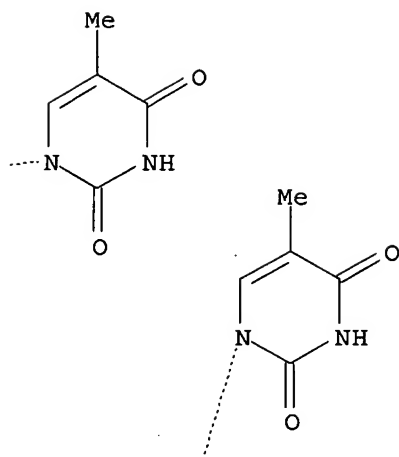
RN 74526-13-9 HCAPLUS

CN Thymidine, 3'-O-acetyl-P-ethylthymidylyl-(5'→3')-P-ethylthymidylyl-(5'→3')-P-ethylthymidylyl-(5'→3')-P-ethylthymidylyl-(5'→3')-P-ethylthymidylyl-(5'→3')-P-ethylthymidylyl-(5'→3')-P-ethylthymidylyl-(5'→3')-5'-O-[bis(4-methoxyphenyl)phenylmethyl]- (9CI) (CA INDEX NAME)

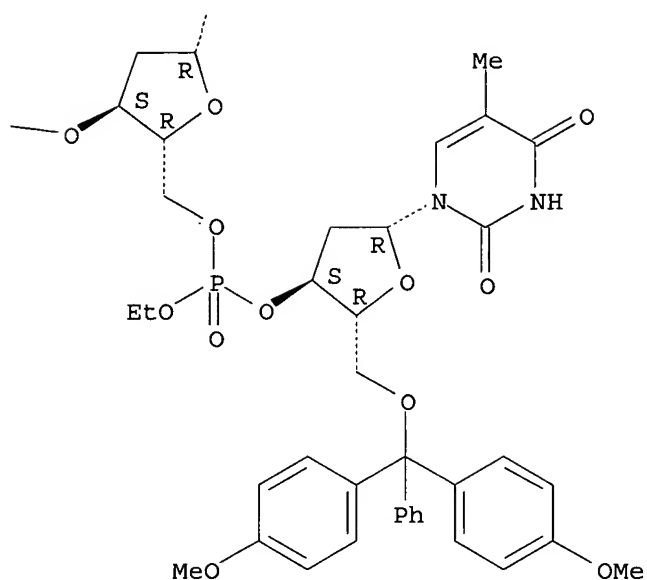
Absolute stereochemistry.

PAGE 1-A

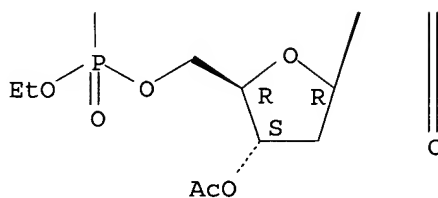




PAGE 2-B



PAGE 3-A



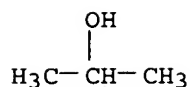
IT 64-17-5, reactions 67-56-1, reactions 67-63-0,
 reactions 100-79-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (transesterification of chlorophenol thymidylates by)
 RN 64-17-5 HCAPLUS
 CN Ethanol (9CI) (CA INDEX NAME)

$\text{H}_3\text{C}-\text{CH}_2-\text{OH}$

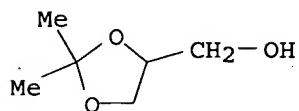
RN 67-56-1 HCAPLUS
 CN Methanol (8CI, 9CI) (CA INDEX NAME)

$\text{H}_3\text{C}-\text{OH}$

RN 67-63-0 HCAPLUS
 CN 2-Propanol (9CI) (CA INDEX NAME)



RN 100-79-8 HCAPLUS
CN 1,3-Dioxolane-4-methanol, 2,2-dimethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



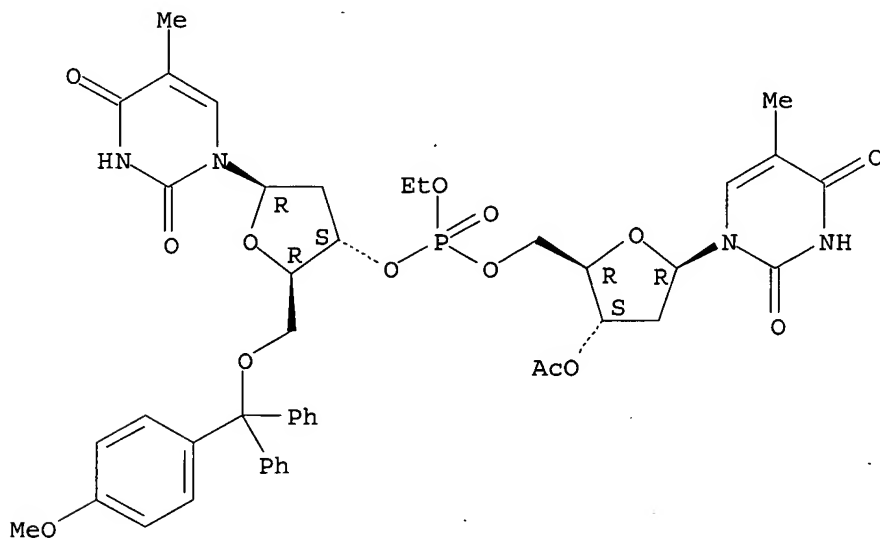
IT 40418-27-7 74517-08-1 74526-09-3
74526-10-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(transesterification of, by alkanols)

RN 40418-27-7 HCAPLUS

CN Thymidine, P-ethyl-5'-O-[(4-methoxyphenyl)diphenylmethyl]thymidylyl-
(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

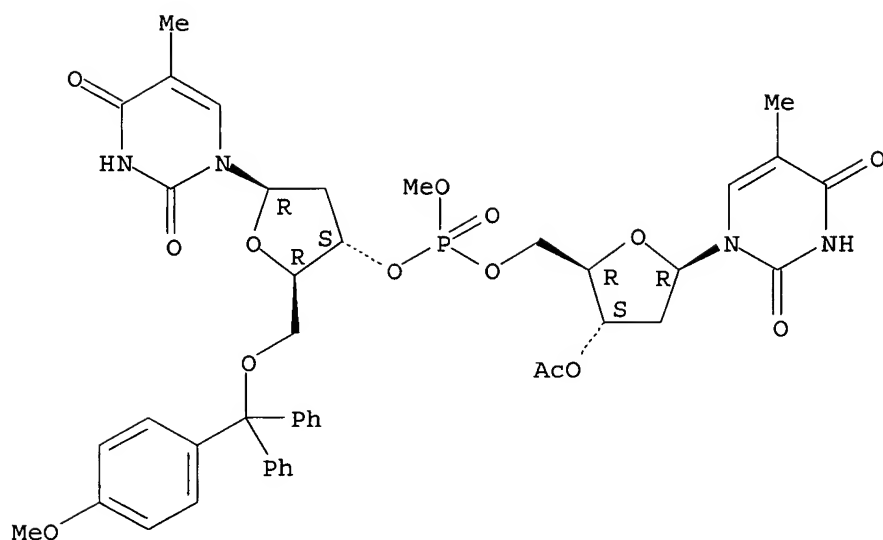
Absolute stereochemistry.



RN 74517-08-1 HCAPLUS

CN Thymidine, 5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-methylthymidylyl-
(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

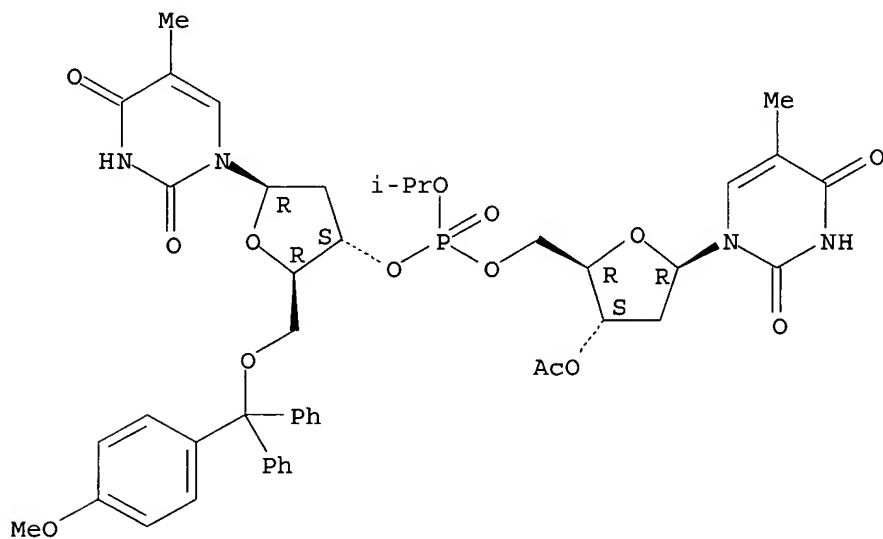
Absolute stereochemistry.



RN 74526-09-3 HCAPLUS

CN Thymidine, 5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-(1-methylethyl)thymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

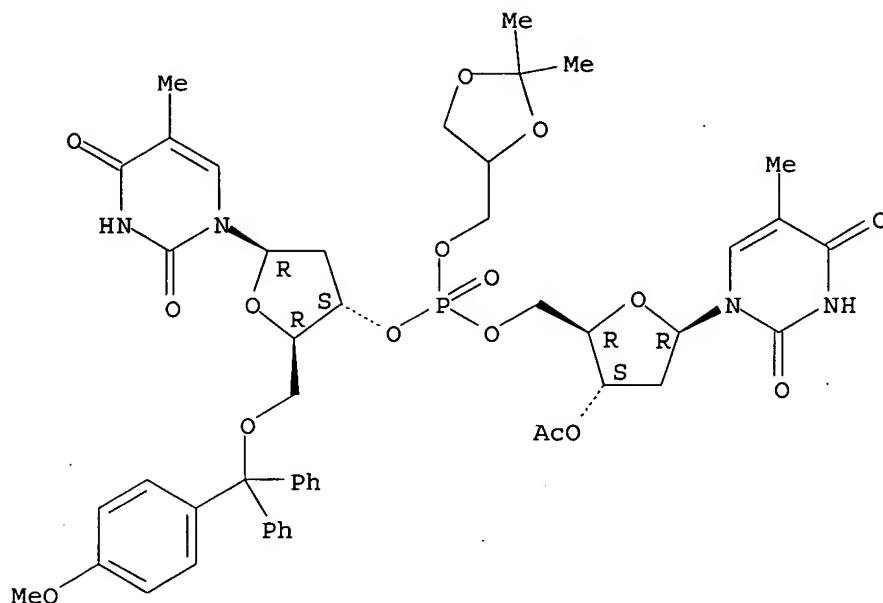
Absolute stereochemistry.



RN 74526-10-6 HCAPLUS

CN Thymidine, P-[(2,2-dimethyl-1,3-dioxolan-4-yl)methyl]-5'-O-[(4-methoxyphenyl)diphenylmethyl]thymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L38 ANSWER 34 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1980:94668 HCAPLUS

DOCUMENT NUMBER: 92:94668

TITLE: Fluoride ion promoted deprotection and transesterification in nucleotide triesters

AUTHOR(S): Ogilvie, Kelvin K.; Beaucage, Serge L.

CORPORATE SOURCE: Dep. Chem., McGill Univ., Montreal, QC, H3A 2K6, Can.

SOURCE: Nucleic Acids Research (1979), 7(3), 805-23

CODEN: NARHAD; ISSN: 0305-1048

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Bu4NF will remove Ph trichloroethyl and cyanoethyl groups from nucleotides. In addition to the desired nucleotide products other results including chain cleavage, phosphofluoridates and cyanoethylated thymidine units may be obtained depending on the conditions used. Fluoride ion has been used to successfully exchange Ph and trichloroethyl groups for Me, Et, and Bu groups in nucleotide triesters. This represents a rapid high yield route to a variety of phosphate esters. The synthesis of a novel nucleotide analog in which 2 chains are bridged through their phosphates is described.

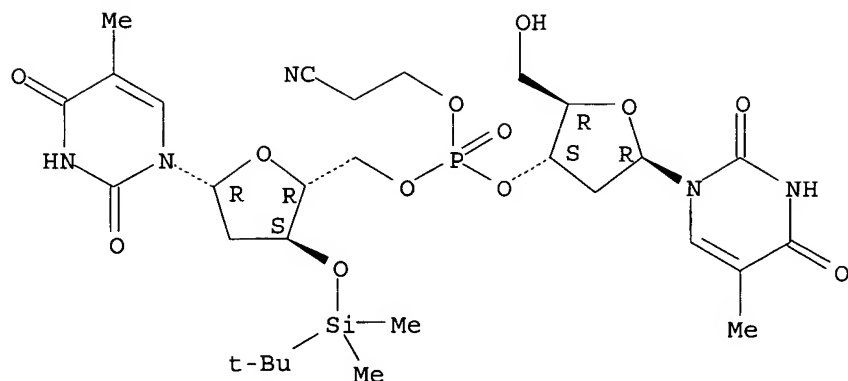
IT 72718-30-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(fluoride ion deprotection of)

RN 72718-30-0 HCAPLUS

CN Thymidine, P-(2-cyanoethyl)thymidylyl-(3'→5')-3'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



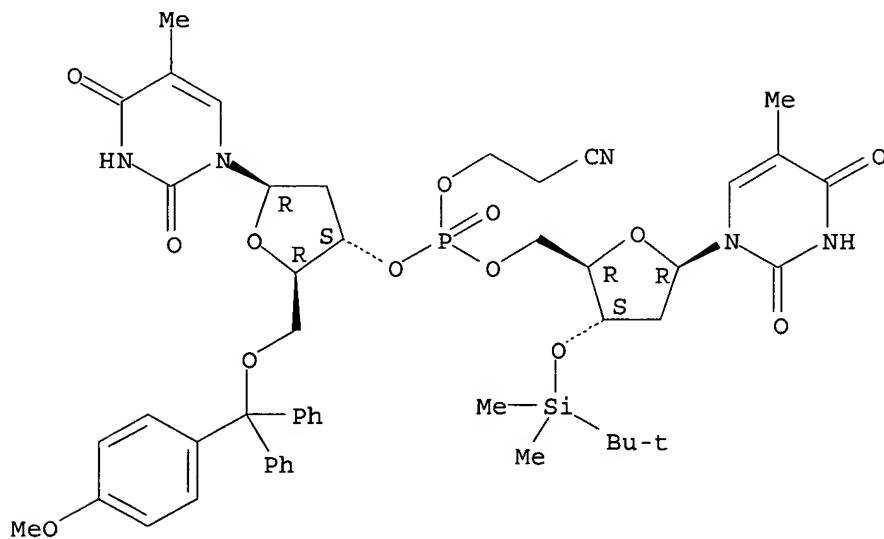
IT 60551-10-2 60551-11-3 60551-12-4
72718-50-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(fluoride ion promoter deprotection of)

RN 60551-10-2 HCAPLUS

CN Thymidine, P-(2-cyanoethyl)-5'-O-[(4-methoxyphenyl)diphenylmethyl]thymidyl
yl-(3'→5')-3'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA
INDEX NAME)

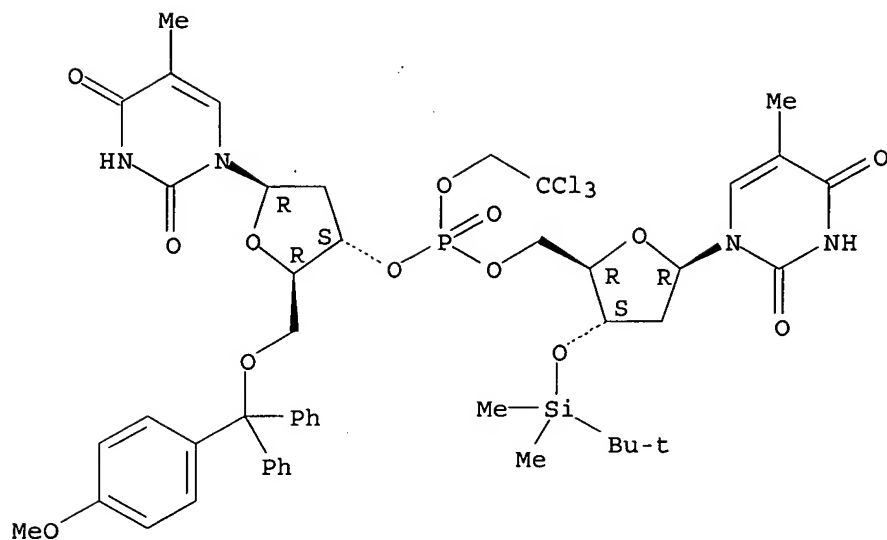
Absolute stereochemistry.



RN 60551-11-3 HCAPLUS

CN Thymidine, 5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-(2,2,2-
trichloroethyl)thymidyl-(3'→5')-3'-O-[(1,1-
dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

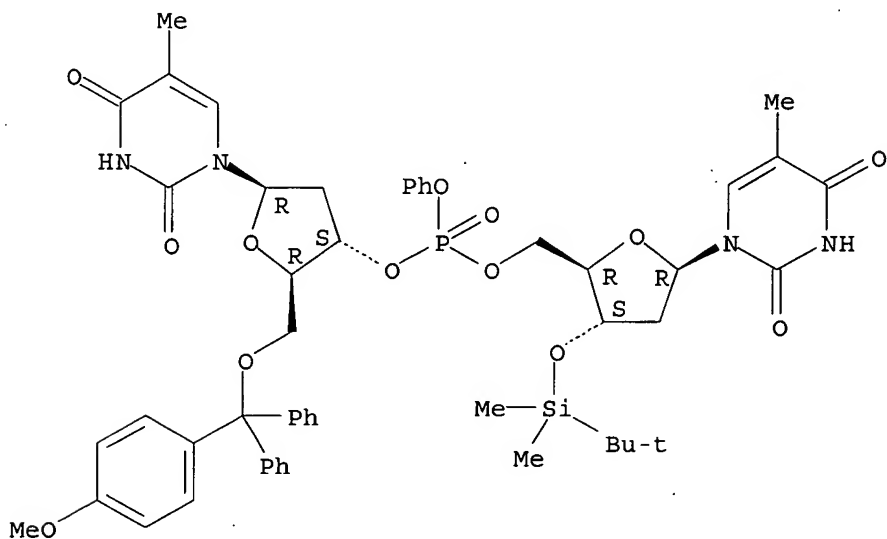
Absolute stereochemistry.



RN 60551-12-4 HCAPLUS

CN Thymidine, 5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-phenylthymidylyl-(3'→5')-3'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

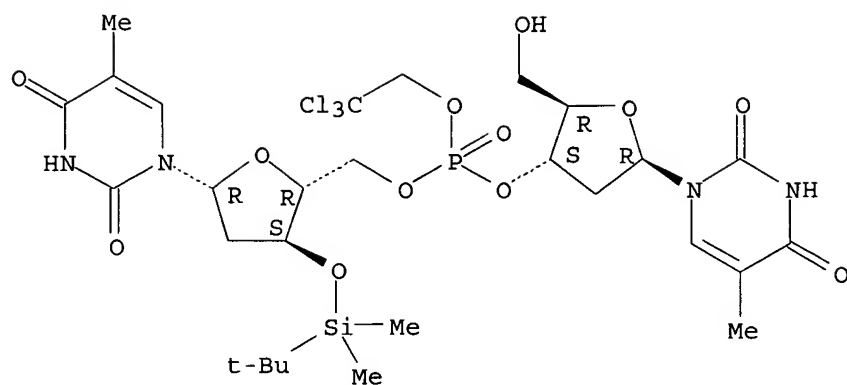
Absolute stereochemistry.



RN 72718-50-4 HCAPLUS

CN Thymidine, P-(2,2,2-trichloroethyl)thymidylyl-(3'→5')-3'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



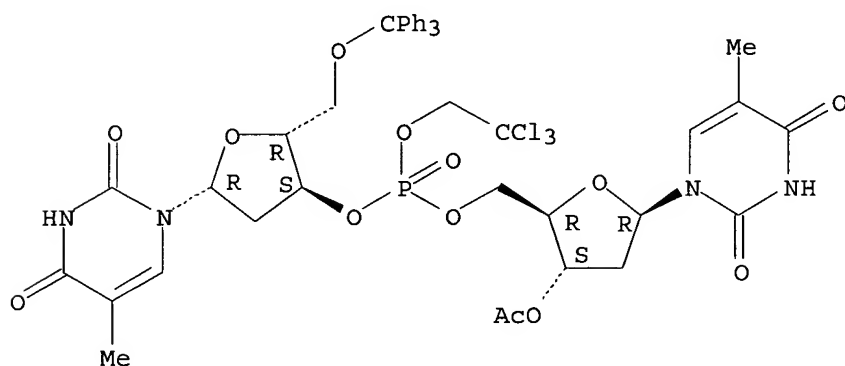
IT 17187-45-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(fluoride ion promoter transesterification of)

RN 17187-45-0 HCAPLUS

CN Thymidine, P-(2,2,2-trichloroethyl)-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



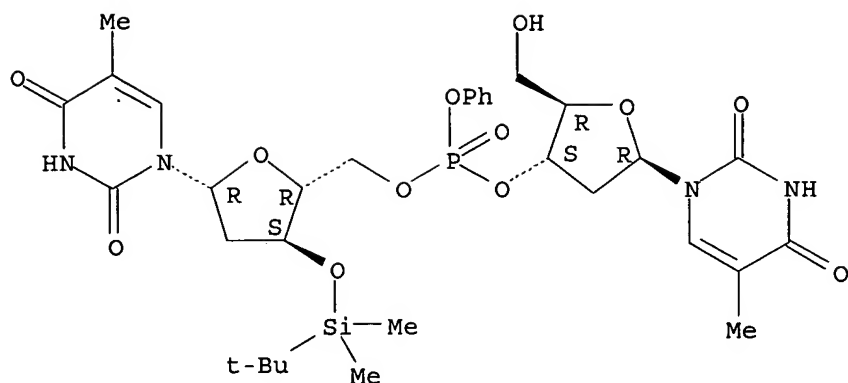
IT 72718-35-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(nucleotide coupling reaction of, trinucleotide from)

RN 72718-35-5 HCAPLUS

CN Thymidine, P-phenylthymidylyl-(3'→5')-3'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



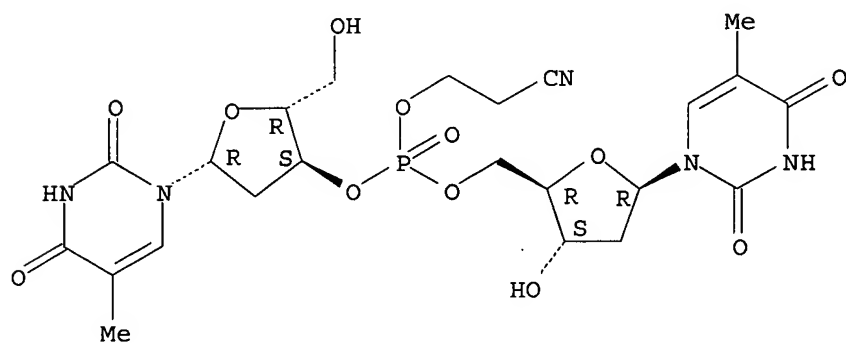
IT 18875-74-6P 56738-15-9P 72718-32-2P
 72718-34-4P 72718-44-6P 72718-45-7P
 72718-46-8P 72718-47-9P 72718-48-0P
 72728-04-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 18875-74-6 HCAPLUS

CN Thymidine, P-(2-cyanoethyl)thymidylyl-(3'→5')- (9CI) (CA INDEX
 NAME)

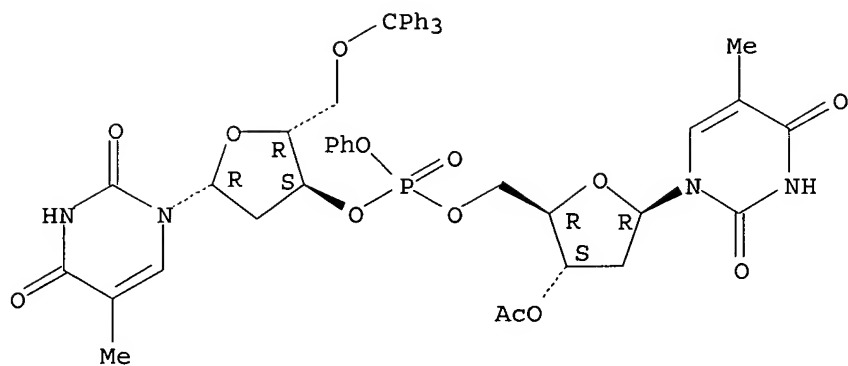
Absolute stereochemistry.



RN 56738-15-9 HCAPLUS

CN Thymidine, P-phenyl-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-,
 3'-acetate (9CI) (CA INDEX NAME)

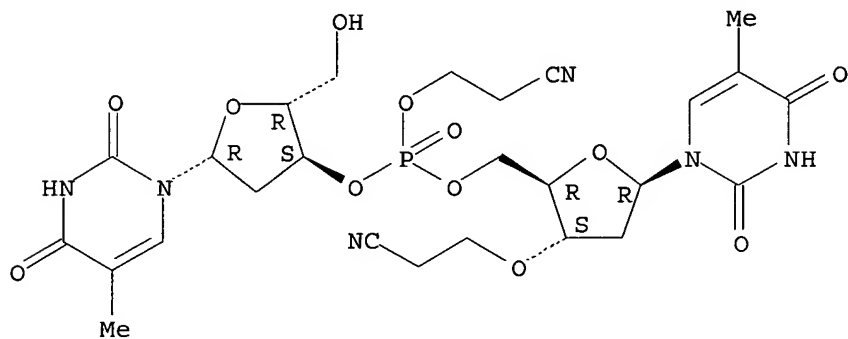
Absolute stereochemistry.



RN 72718-32-2 HCAPLUS

CN Thymidine, P-(2-cyanoethyl)thymidylyl-(3'→5')-3'-O-(2-cyanoethyl)-(9CI) (CA INDEX NAME)

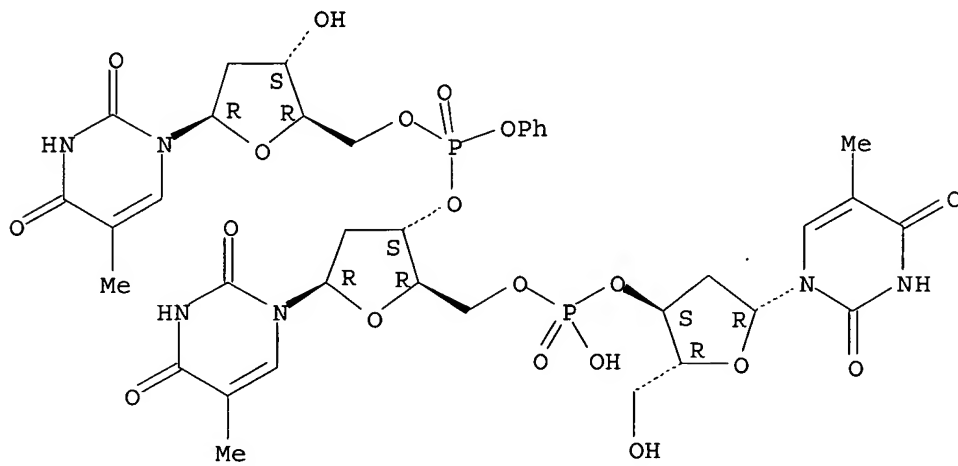
Absolute stereochemistry.



RN 72718-34-4 HCAPLUS

CN Thymidine, thymidylyl-(3'→5')-P-phenylthymidylyl-(3'→5')-(9CI) (CA INDEX NAME)

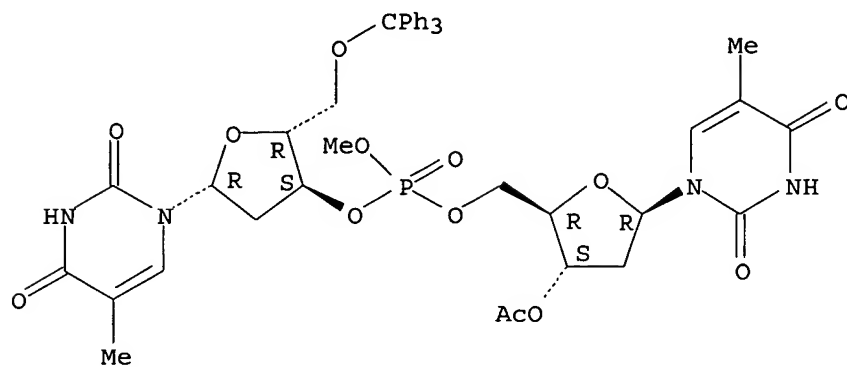
Absolute stereochemistry.



RN 72718-44-6 HCAPLUS

CN Thymidine, P-methyl-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-,
3'-acetate (9CI) (CA INDEX NAME)

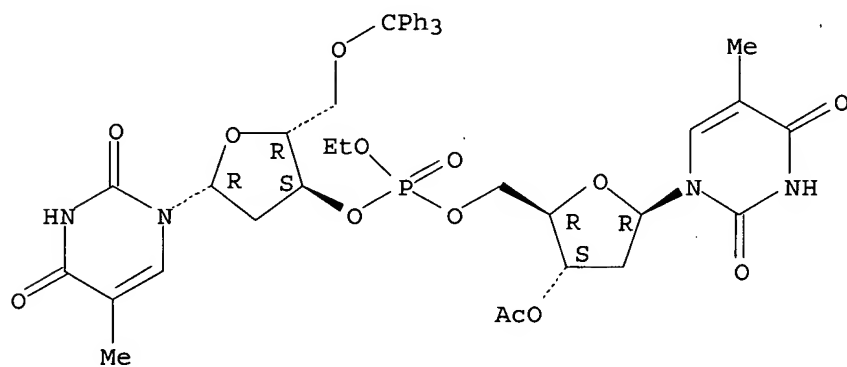
Absolute stereochemistry.



RN 72718-45-7 HCAPLUS

CN Thymidine, P-ethyl-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-,
3'-acetate (9CI) (CA INDEX NAME)

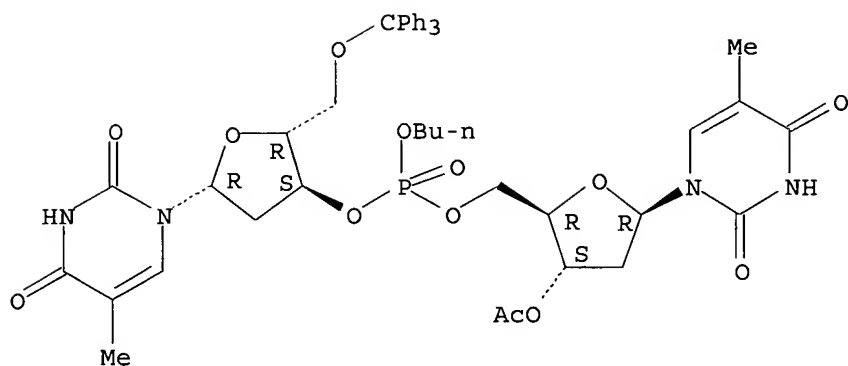
Absolute stereochemistry.



RN 72718-46-8 HCAPLUS

CN Thymidine, P-butyl-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-,
3'-acetate (9CI) (CA INDEX NAME)

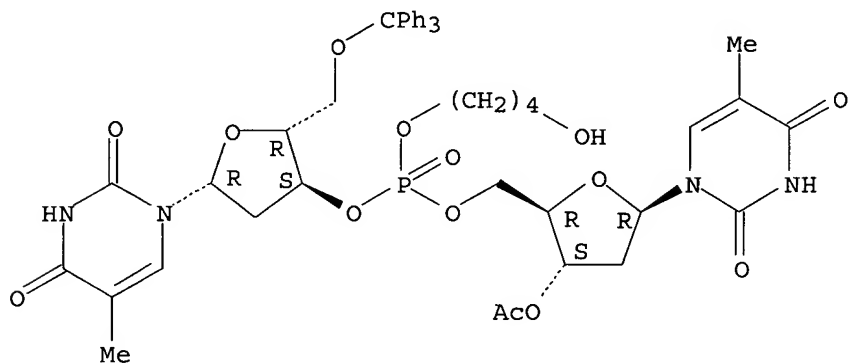
Absolute stereochemistry.



RN 72718-47-9 HCAPLUS

CN Thymidine, P-(4-hydroxybutyl)-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

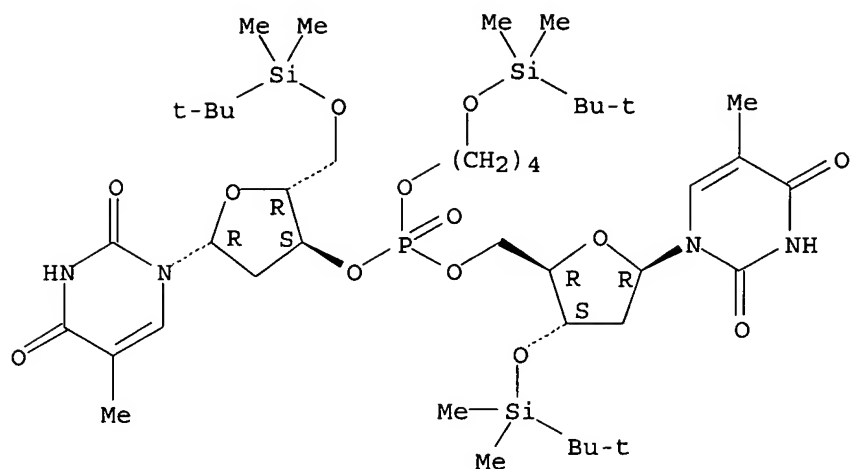
Absolute stereochemistry.



RN 72718-48-0 HCAPLUS

CN Thymidine, 5'-O-[(1,1-dimethylethyl)dimethylsilyl]-P-[4-[[[(1,1-dimethylethyl)dimethylsilyl]oxy]butyl]thymidylyl-(3'→5')-3'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

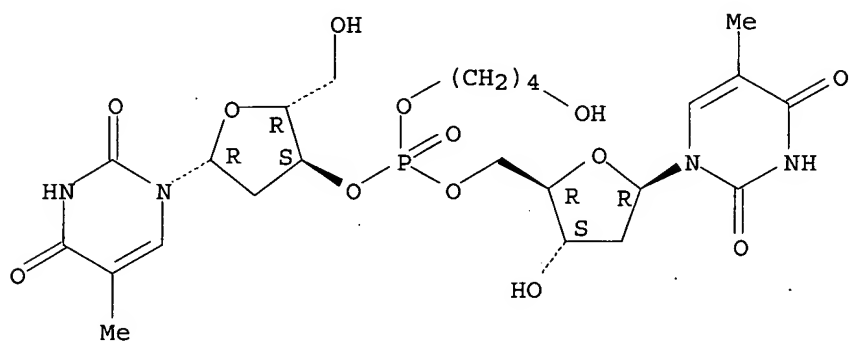
Absolute stereochemistry.



RN 72728-04-2 HCAPLUS

CN Thymidine, P-(4-hydroxybutyl)thymidylyl-(3'→5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



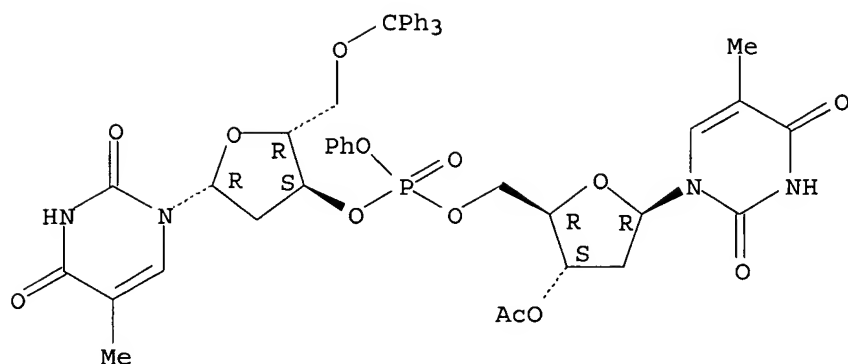
IT 56738-15-9

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with butanediol)

RN 56738-15-9 HCAPLUS

CN Thymidine, P-phenyl-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-,
3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L38 ANSWER 35 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1979:444034 HCAPLUS

DOCUMENT NUMBER: 91:44034

TITLE: Wet type oxidation treatment method of waste water containing synthetic organic compounds

AUTHOR(S): Murakami, Yukio; Hagiwara, Kazuyoshi; Saito, Toshihide; Kitagawa, Naoyuki

CORPORATE SOURCE: Gov. Ind. Res. Inst., Osaka, Japan

SOURCE: Mizu Shori Gijutsu (1978), 19(10), 901-9

CODEN: MSYGAO; ISSN: 0026-7015

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB The **decomposition** of water-soluble synthetic organic compds. was studied in an autoclave with reaction time of 2 h at 200-30°/20 atmospheric. Several types of **metal ions** and complexes were used as catalysts for solns. of MeOH [67-56-1] and HCHO [50-00-0]; Cu ion or complexes were good catalysts. The **decomposition** degree of butyric acid [107-92-6] increased in the range 50-200 ppm catalyst, but became constant at >400 ppm catalyst. The **decomposition** of simple compds. such as fatty acids and fatty **alcs.** followed the equation: $\ln C_0/C = kt$, where k is reaction rate, t is reaction time, C_0 is total organic carbon (TOC) concentration, and C is TOC concentration after reaction time.

(t). The degree of **decomposition** of fatty acids and fatty **alcs.** increased with increasing number of carbons, and fatty amines were highly **decomposed** regardless of the number of carbons. The isomers of Bu **alc.** were **decomposed** in the order: $n < \text{sec} < \text{tert.}$ Surface active agents, e.g., polyethylene glycol monolaurate (I) [9004-81-3], Na dodecylbenzenesulfonate [25155-30-0], etc., were also highly **decomposition**, but the **decomposition** of these complex compds. followed a 2-stage reaction: fast at 1st and then gradually slower. Lab wastewaters containing, e.g. polyethers, phenolformaldehyde resin [9003-35-4], and emulsified oil were **decomposed** to a great extent. Removal and regeneration of the catalyst from wastewater was done with the chelate resin Dowex A-1.

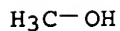
IT 67-56-1, uses and miscellaneous 71-36-3, uses and miscellaneous 75-65-0, uses and miscellaneous 78-92-2

RL: REM (Removal or disposal); PROC (Process)

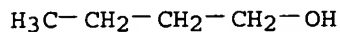
(removal of, from wastewater, by catalytic oxidation)

RN 67-56-1 HCAPLUS

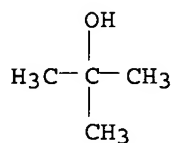
CN Methanol (8CI, 9CI) (CA INDEX NAME)



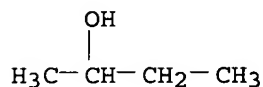
RN 71-36-3 HCAPLUS
CN 1-Butanol (9CI) (CA INDEX NAME)



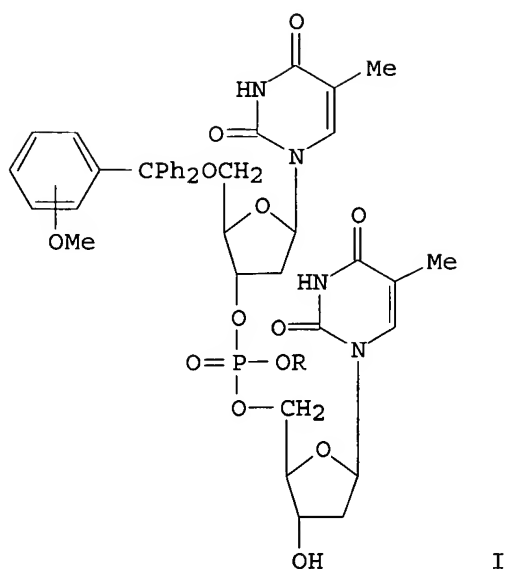
RN 75-65-0 HCAPLUS
CN 2-Propanol, 2-methyl- (9CI) (CA INDEX NAME)



RN 78-92-2 HCAPLUS
CN 2-Butanol (9CI) (CA INDEX NAME)



L38 ANSWER 36 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1976:560455 HCAPLUS
DOCUMENT NUMBER: 85:160455
TITLE: Fluoride ion-promoted transesterification in phosphate triesters
AUTHOR(S): Ogilvie, Kelvin K.; Beaucage, Serge L.
CORPORATE SOURCE: Dep. Chem., McGill Univ., Montreal, QC, Can.
SOURCE: Journal of the Chemical Society, Chemical Communications (1976), (12), 443-4
CODEN: JCCCAT; ISSN: 0022-4936
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



AB Phenyl groups were replaced in phosphate triesters by alkyl groups on treatment with **alcs.** in the presence of CsF or Bu₄NF. E.g., the nucleotide I (R = Ph) prepared by condensation of 5'-O-monomethoxytritylthymidine 3'-(phenyl phosphate) with 3'-O-tert-butyltrimethylsilylthymidine, gave >90% I (R = Cl₃CCH₂, MeCH₂, Me) by dissolving it in the appropriate **alc.** containing CsF. Similarly, (PhO)₃PO gave (RO)₃PO [R = Me, Et, Pr, Me₂CH, Bu, Me(CH₂)₄] quant.

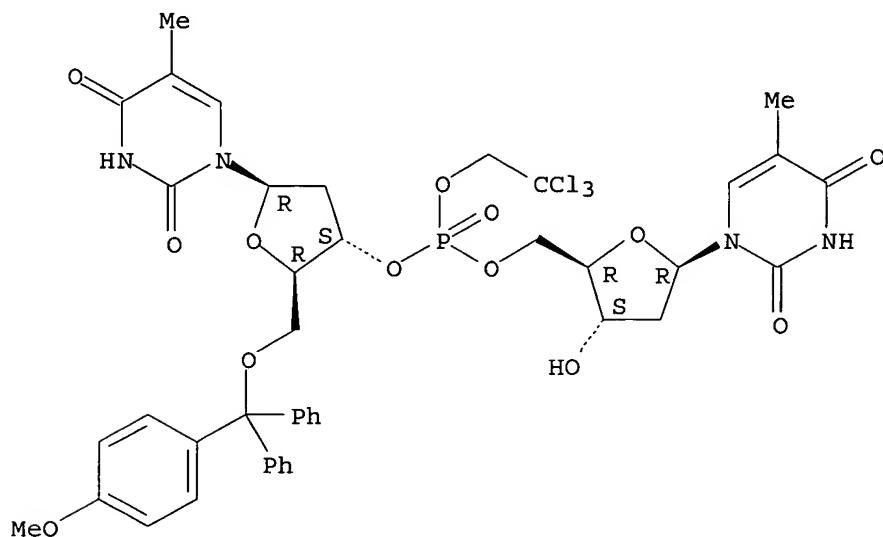
IT **60551-14-6P 60975-42-0P 61134-17-6P**

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 60551-14-6 HCAPLUS

CN Thymidine, 5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-(2,2,2-trichloroethyl)thymidylyl-(3'→5')- (9CI) (CA INDEX NAME)

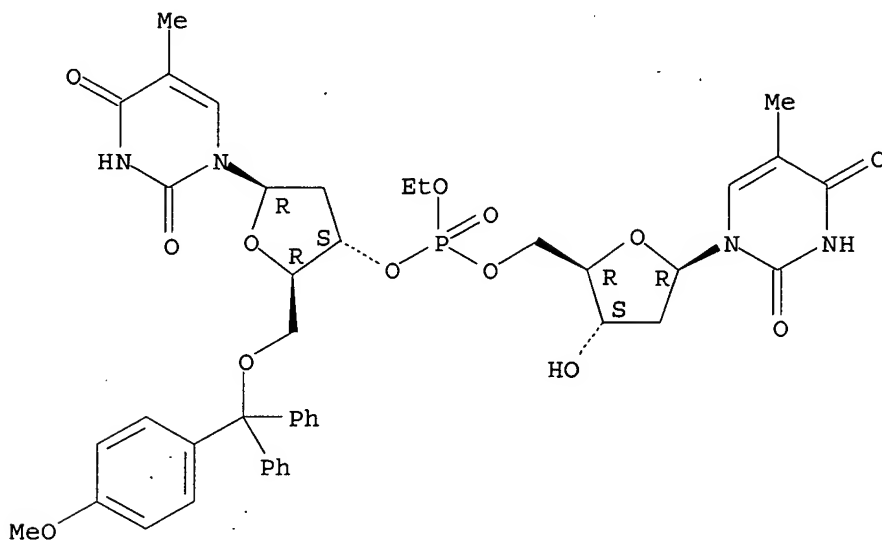
Absolute stereochemistry.



RN 60975-42-0 HCAPLUS

CN Thymidine, P-ethyl-5'-O-[(4-methoxyphenyl)diphenylmethyl]thymidylyl-(3'→5') - (9CI) (CA INDEX NAME)

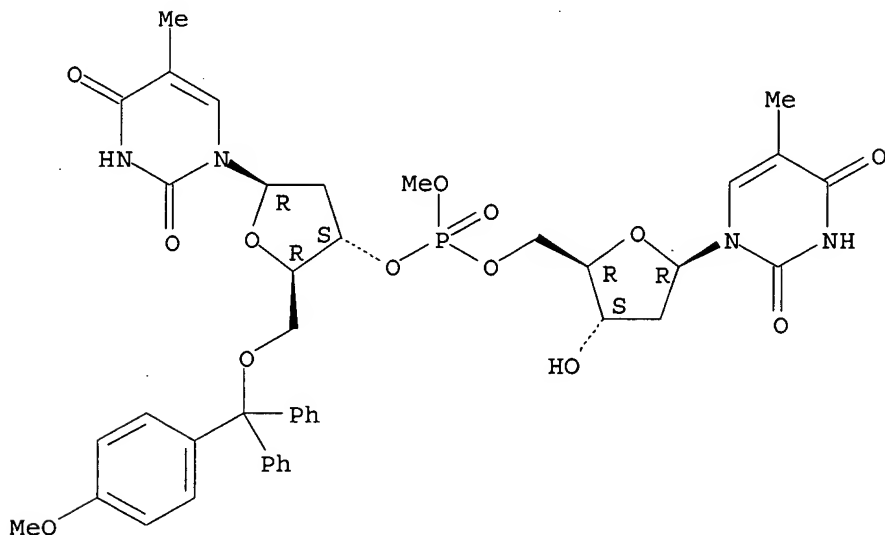
Absolute stereochemistry.



RN 61134-17-6 HCAPLUS

CN Thymidine, 5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-methylthymidylyl-(3'→5') - (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 57254-03-2

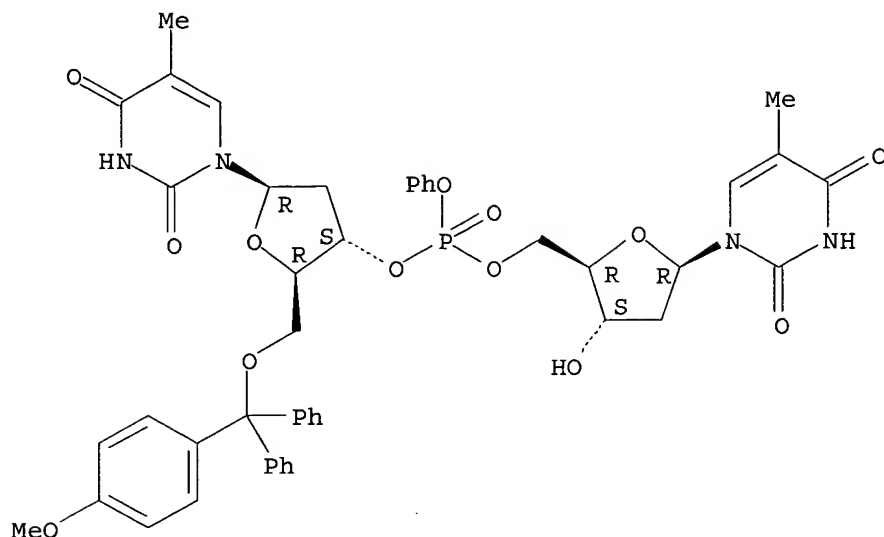
RL: RCT (Reactant); RACT (Reactant or reagent)
(transesterification of, fluoride ion catalysts for)

RN 57254-03-2 HCAPLUS

CN Thymidine, 5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-phenylthymidylyl-

(3'→5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L38 ANSWER 37 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1969:71522 HCAPLUS

DOCUMENT NUMBER: 70:71522

TITLE: Synergism in the solvent extraction of **metal ions** by dibenzoylmethane

AUTHOR(S): Healy, Thomas V.

CORPORATE SOURCE: At. Energy Res. Estab., Harwell, Engl., UK

SOURCE: Journal of Inorganic and Nuclear Chemistry (1969), 31(2), 499-511

CODEN: JINCAO; ISSN: 0022-1902

DOCUMENT TYPE: Journal

LANGUAGE: English

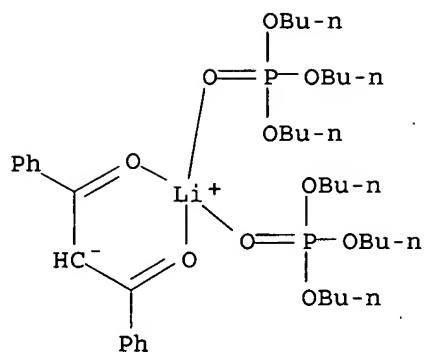
AB Large synergistic effects are obtained in the extraction of Li and Na by dibenzoylmethane (DBM) plus neutral donor solvents (Z). Smaller effects are obtained for U, much smaller ones for Am, and negligible effects for Th, extraction. The formulas of the synergistically extracted species are $\text{Li}(\text{DBM})\text{Z}_2$, $\text{Na}(\text{DBM})\text{Z}_2$, and $\text{UO}_2(\text{DBM})_2\text{Z}_2$, where Z may be a phosphine oxide, a phosphate, an **alc.**, or an amide. Equilibrium consts. are reported for these synergistic reactions for a wide range of species.

IT 23210-74-4

RL: PROC (Process)
(extraction of)

RN 23210-74-4 HCAPLUS

CN Lithium, (1,3-diphenyl-1,3-propanedionato)bis(phosphoric acid)-, hexabutyl ester (8CI) (CA INDEX NAME)



L38 ANSWER 38 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1964:465686 HCAPLUS

DOCUMENT NUMBER: 61:65686

ORIGINAL REFERENCE NO.: 61:11383h,11384a-b

TITLE: Solvent extraction of **metal ions** with mixed ligands. I. Adduct formation of Cu(II) and Zn(II) chelate complexes of thenoyltrifluoroacetone (TTA) and β -isopropyltropone (IPT)

AUTHOR(S): Sekine, T.; Dyrssen, D.

CORPORATE SOURCE: Roy. Inst. Technol., Stockholm

SOURCE: Journal of Inorganic and Nuclear Chemistry (1964), 26(10), 1727-42

CODEN: JINCAO; ISSN: 0022-1902

DOCUMENT TYPE: Journal

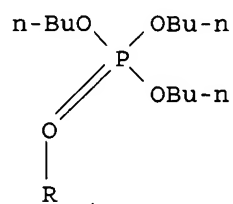
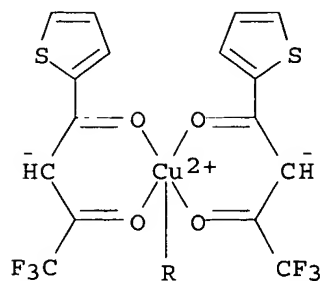
LANGUAGE: Unavailable

AB The following equilibrium were studied by distribution measurements with radioisotopes: The formation of MA2, $M2+(aq) + 2HA(org) \rightleftharpoons MA2(org) + 2H+(aq)$; and the adduct formation between MA2 and L, $MA2(org) + nL(org) \rightleftharpoons MA2Ln(org)$, where M = Cu or Zn; HA = TTA or IPT; L = tributyl phosphate (TBP), methyl isobutyl ketone (hexone), or undissocd. IPT (HA); org = hexone, $CHCl_3$, or CCl_4 ; and aq = 0.1M (H,Na)ClO₄. Stability consts. were determined for the different systems. The expts. show the presence of both MA2 complexes and MA2L complexes. Some indications of ZnA2L₂ are found. The relative strengths of complexes (values of the stability consts.) show that the TTA complexes form more stable adducts than the IPT complexes, and that CuA2 has a smaller tendency to form an adduct than ZnA2. TBP forms more stable adducts than hexone.

IT 14513-76-9, Copper, bis[4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedionato](tributyl phosphate)- 14513-77-0, Zinc, bis[4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedionato](tributyl phosphate)-(preparation of)

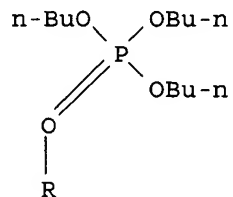
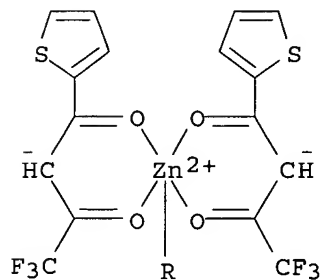
RN 14513-76-9 HCAPLUS

CN Copper, (tributyl phosphate-O''')bis[4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedionato-O,O']- (9CI) (CA INDEX NAME)



RN 14513-77-0 HCAPLUS

CN Zinc, (tributyl phosphate-O''')bis[4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedionato-O,O']- (9CI) (CA INDEX NAME)

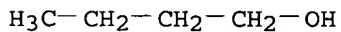


IT 71-36-3, Butyl alcohol

(vanadium extraction from aqueous solns. by 2,4-pentanedione and)

RN 71-36-3 HCAPLUS

CN 1-Butanol (9CI) (CA INDEX NAME)



L38 ANSWER 39 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1963:448639 HCAPLUS

DOCUMENT NUMBER: 59:48639

ORIGINAL REFERENCE NO.: 59:8844d-f

TITLE: Phosphorylation of glycerol and its derivatives by
alcoholysis of amides of dialkylphosphinous
 acids. A new method of directed replacement of the
 hydroxy by a cyano group

AUTHOR(S): Petrov, K. A.; Nifant'ev, E. E.; Khorkhoyanu, L. V.

SOURCE: Zhurnal Obshchei Khimii (1962), 32, 3720-3

CODEN: ZOKHA4; ISSN: 0044-460X

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

OTHER SOURCE(S): CASREACT 59:48639

AB Slow distillation of Et₂NH front 10 g. 1,2-O-isopropylideneglycerol and 21.5 g. Pr₂PNET₂ under N at 120-5° gave 98% 2,3-O-isopropylideneglycerol (dipropyl phosphinite) (I), b₇ 125-6°, n_{20D} 1.4520. Similar reaction of O-benzylideneglycerol gave the corresponding dipropyl phosphinite, b_{0.001} 190-5° (bath temperature), which, treated with O at 20°, gave the corresponding phosphinate, n_{20D} 1.5179. Similarly, glycerol and excess Pr₂PNET₂ at 135-40° gave 60% glycerol tris(dipropyl phosphinite), b_{0.001} 157-62° (bath temperature), n_{20D} 1.4772, d₂₀ 0.9720, which is easily oxidized by air. Adding Pr₂POPr to BuSCN (exothermic) at 0° under N and heating 1 hr. at 100-10° gave 50% EtCN and Pr₂P(O)SBu, b₈ 131-3°, 1.4630, 0.9743. Similarly, I and PhSCN gave 45% 1,2-O-isopropylideneglycerol 3-cyanohydrin (II), b₂ 75-6°, 1.4568, 1.1070. This was added rapidly to a solution of SnCl₂ in Et₂O, saturated with dry HCl, and refluxed 1 hr.; after an aqueous treatment on the following day the mixture was neutralized, heated 5 hrs. to 50°, freed of Sn hydroxide precipitate, evaporated, and extracted with Et₂O, after which the extract with

p-O₂NC₆H₄NHNH₂ gave

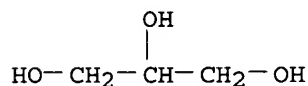
2-deoxy-O-isopropylidenetetrose p-nitrophcnylhydrazone, m. 1024.5°.

II and LiAlH₄ in Et₂O gave 4-amino-3,4-deoxy-O-isopropylidenetetritol, isolated as the picrolonate, m. 124-6°.

IT 56-81-5, Glycerol
 (derivs., phosphorylation of)

RN 56-81-5 HCAPLUS

CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



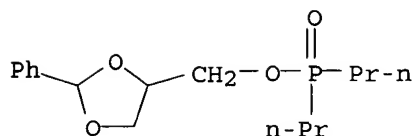
(phosphorylation of

IT 90117-38-7, Phosphinic acid, dipropyl-, (2-phenyl-1,3-dioxolan-4-yl)methyl ester

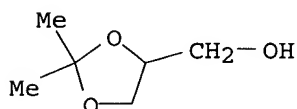
(preparation of)

RN 90117-38-7 HCAPLUS

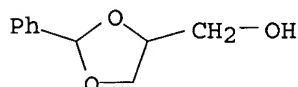
CN Phosphinic acid, dipropyl-, (2-phenyl-1,3-dioxolan-4-yl)methyl ester (7CI)
 (CA INDEX NAME)



IT 100-79-8, 1,3-Dioxolane-4-methanol, 2,2-dimethyl-
 1708-39-0, 1,3-Dioxolane-4-methanol, 2-phenyl-
 (reaction with N,N-diethyl-P,P-dipropylphosphinous amide)
 RN 100-79-8 HCAPLUS
 CN 1,3-Dioxolane-4-methanol, 2,2-dimethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 1708-39-0 HCAPLUS
 CN 1,3-Dioxolane-4-methanol, 2-phenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L38 ANSWER 40 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1963:56592 HCAPLUS

DOCUMENT NUMBER: 58:56592

ORIGINAL REFERENCE NO.: 58:9669h,9670a-c

TITLE: Synergism in the solvent extraction of bi, tri, and quadrivalent metal ions. III.

Antisnergism with thenoyltrifluoroacetone

AUTHOR(S): Healy, T. V.; Peppard, D. F.; Mason, G. W.

CORPORATE SOURCE: Argonne Natl. Lab., Argonne, IL

SOURCE: Journal of Inorganic and Nuclear Chemistry (1962), 24, 1429-48

CODEN: JINCAO; ISSN: 0022-1902

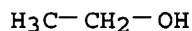
DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

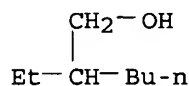
AB cf. CA 56, 9502e. Greatly enhanced extraction (synergism) of bi, tri, and quadrivalent cations from aqueous solution has previously been reported for the system H₂O/Mn⁺/HTTA/S/diluent, where S is a neutral organophosphorus ester and HTTA is thenoyltrifluoroacetone. Examples are now given where S contains no P and is an amide, alc., or ketone. Complete destruction of this greatly enhanced extraction by addition of excess S whether the neutral additive is a P ester, an amide, alc., or ketone is demonstrated. These antisnergic effects are shown to be greater than, but the same type as, the effects due to some so-called inert diluents. This phenomenon of antisnergism is shown to be connected with the water content of the organic phase and the destruction of the anhydrous synergic species M(TTA)_xSy. The HTTA thermodynamic activity is lowered and water probably enters the complex. Absorptiometric measurements demonstrate three different spectra for HTTA/TBP (TBP is Bu₃PO₄) in nonaq. solution: (a)

the enolate form in dry TBP, probably H bonded to the TBP, (b) the normal enol form in hexane solution in the presence or absence of low concns. of TBP and water, and (c) the ketohydrate form in water equilibrated TBP. UO₂(TTA)₂ or Th(TTA)₄ in dry TBP have the HTTA enolate spectra whereas in wet TBP the metal/TTA enol spectra obtains, evidence that water helps to destroy the anhydrous synergic species, causing anti-synergism to occur.

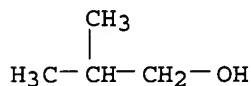
IT 64-17-5, Ethyl alcohol
(elec. conductivity and ion association of CsCl and KCl in aqueous)
RN 64-17-5 HCAPLUS
CN Ethanol (9CI) (CA INDEX NAME)



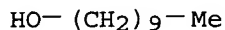
IT 104-76-7, 1-Hexanol, 2-ethyl-
(extractants containing 4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedione and)
RN 104-76-7 HCAPLUS
CN 1-Hexanol, 2-ethyl- (8CI, 9CI) (CA INDEX NAME)



IT 78-83-1, Isobutyl alcohol 112-30-1, Decyl
alcohol
(extractants containing thenoyltrifluoroacetone and, antisnergism and synergism of)
RN 78-83-1 HCAPLUS
CN 1-Propanol, 2-methyl- (9CI) (CA INDEX NAME)



RN 112-30-1 HCAPLUS
CN 1-Decanol (9CI) (CA INDEX NAME)

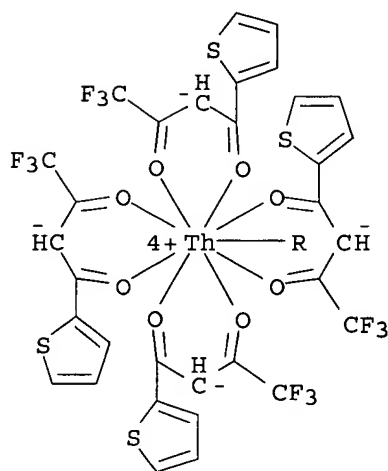


IT 18582-66-6, Uranium, dioxobis[4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedionato](tributyl phosphate)- 52707-02-5, Thorium, tetrakis[4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedionato](tributyl phosphate)-
(preparation of)
RN 18582-66-6 HCAPLUS
CN Uranium, dioxo(tributyl phosphate-κO''')bis[4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedionato-κO,κO']- (9CI) (CA INDEX NAME)

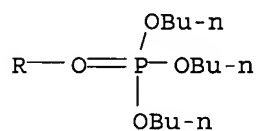
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 52707-02-5 HCAPLUS
CN Thorium, (tributyl phosphate-O''')tetrakis[4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedionato-O,O']- (9CI) (CA INDEX NAME)

PAGE 1-A



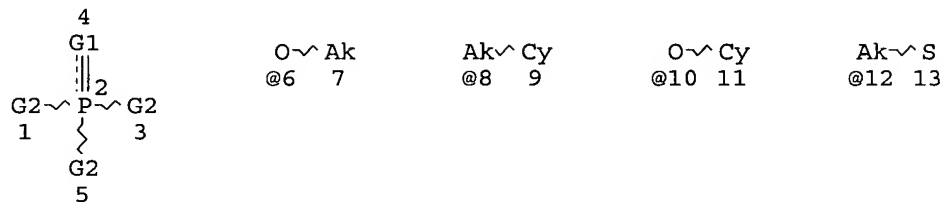
PAGE 2-A



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L1 STR



S~Ak
@14 15

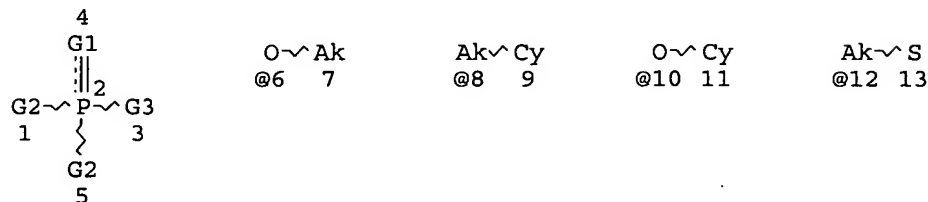
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE

L2 197145 SEA FILE=REGISTRY SSS FUL L1

L3 STR



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 @14 15 16 17

VAR G1=O/S

VAR G2=6/8/10/12/14/X/CN/AK

VAR G3=6/10/14/12/X/CN

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE

L5 20237 SEA FILE=REGISTRY SUB=L2 SSS FUL L3

L6 12100 SEA FILE=REGISTRY ABB=ON PLU=ON METAL OR LANTHANIDE OR
 TRANSITION

L7 180378 SEA FILE=REGISTRY ABB=ON PLU=ON ION OR IONS

L9 284086 SEA FILE=REGISTRY ABB=ON PLU=ON METHANOL

L10 224712 SEA FILE=REGISTRY ABB=ON PLU=ON ETHANOL/BI

L11 28277 SEA FILE=REGISTRY ABB=ON PLU=ON ALCOHOL OR ALCOHOLS

L12 44 SEA FILE=REGISTRY ABB=ON PLU=ON ALKANOL OR ALKANOLS

L13 8575 SEA FILE=REGISTRY ABB=ON PLU=ON N-PROPANOL?/CN OR ISO-PROPANO
 L?/CN OR N-BUTANOL?/CN OR 2-BUTANOL?/CN OR METHOXYETHANOL

L22 5443 SEA FILE=HCAPLUS ABB=ON PLU=ON L5

L23 3711905 SEA FILE=HCAPLUS ABB=ON PLU=ON L6 OR METAL OR LANTHANIDE

L24 2157436 SEA FILE=HCAPLUS ABB=ON PLU=ON L7 OR ION OR IONS

L25 192886 SEA FILE=HCAPLUS ABB=ON PLU=ON (L23 OR TRANSITION) (5A) L24

L26 46 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 AND L25

L27 14417 SEA FILE=HCAPLUS ABB=ON PLU=ON (ALCOHOLYSIS/CV OR ALCOHOLYSES
 /CV OR ALKANOLYSIS/CV OR ETHANOLYSIS/CV OR METHANOLYSIS/CV OR
 "ALCOHOLYSIS CATALYSTS"/CV OR "ALCOHOLYSIS KINETICS"/CV OR
 TRANSESTERIFICATION/CV) OR ALCOHOLYSIS

L28 18 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 AND L22

L29 143 SEA FILE=REGISTRY ABB=ON PLU=ON PARAOXON OR G(W)AGENT OR VX

L30 493632 SEA FILE=HCAPLUS ABB=ON PLU=ON L29 OR PARAOXON OR G(W)AGENT
 OR VX

L31 265 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 AND (L30 OR ORGANOPHOS?
 OR PESTICID? OR INSECTICID?)

L32 33 SEA FILE=HCAPLUS ABB=ON PLU=ON L31 AND L24

L33 3410 SEA FILE=HCAPLUS ABB=ON PLU=ON (L22 OR L30) (L)DECOMPO?

L34 52 SEA FILE=HCAPLUS ABB=ON PLU=ON L25 AND L33

L35 35 SEA FILE=HCAPLUS ABB=ON PLU=ON L34 NOT THERMAL (2A)DECOMPO?

L36 132 SEA FILE=HCAPLUS ABB=ON PLU=ON L26 OR L28 OR L32 OR L35

L37 114 SEA FILE=HCAPLUS ABB=ON PLU=ON L36 AND PD=<MARCH 12, 2003

L38 40 SEA FILE=HCAPLUS ABB=ON PLU=ON L37 AND (ALCOHOL OR L9 OR L10
OR L11 OR L12 OR L13 OR METHANOL OR ?ETHANOL OR ALKANOL OR
PROPANOL OR BUTANOL)
L45 18 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 AND L27
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L47 8 SEA FILE=HCAPLUS ABB=ON PLU=ON L46 NOT L38

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8 ANSWERS ARE AVAILABLE. SPECIFIED ANSWER NUMBER EXCEEDS ANSWER SET SIZE
ENTER ANSWER NUMBER OR RANGE (1):end

=> d ibib abs hitstr l47 1-8

L47 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:133478 HCAPLUS
DOCUMENT NUMBER: 138:186456
TITLE: Method for preparing ester linked peptide-carbohydrate
conjugates
INVENTOR(S): Davis, Benjamin Guy; Fairbanks, Antony John
PATENT ASSIGNEE(S): Isis Innovation Limited, UK
SOURCE: PCT Int. Appl., 70 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003014371	A1	20030220	WO 2002-GB3704	20020812 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1414988	A1	20040506	EP 2002-751418	20020812
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US 2004208883	A1	20041021	US 2004-486349	20040621
PRIORITY APPLN. INFO.:			GB 2001-19665	A 20010810
			WO 2002-GB3704	W 20020812

OTHER SOURCE(S): CASREACT 138:186456

AB A method of producing an ester linked carbohydrate-peptide conjugate is
provided comprising: (a) providing a vinyl ester amino acid group, and (b)
reacting the vinyl ester amino acid with a carbohydrate acyl acceptor in
the presence of an enzyme, to produce thereby an ester-linked
carbohydrate-peptide conjugate. Also provided are ester linked
carbohydrate-peptide conjugates obtainable by such methods.

IT 499122-38-2P 499122-39-3P

RL: PRP (Properties); PUR (Purification or recovery); SPN (Synthetic

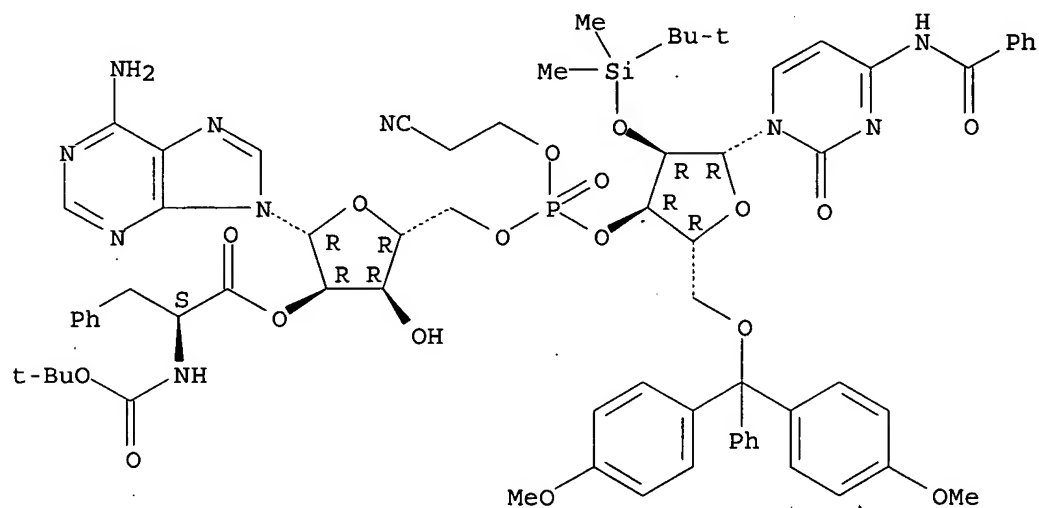
preparation); PREP (Preparation)

(preparing ester-linked peptide-carbohydrate conjugates)

RN 499122-38-2 HCAPLUS

CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-P-(2-cyanoethyl)-2'-O-[(1,1-dimethylethyl)dimethylsilyl]cytidyl- (3'→5')-, 2'-ester with N-[(1,1-dimethylethoxy)carbonyl]-L-phenylalanine (9CI) (CA INDEX NAME)

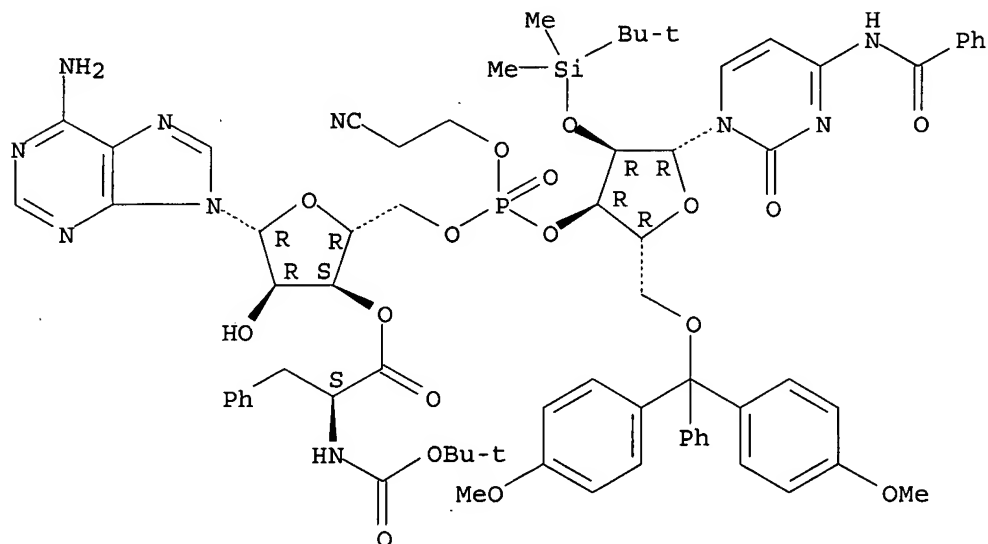
Absolute stereochemistry.



RN 499122-39-3 HCAPLUS

CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-P-(2-cyanoethyl)-2'-O-[(1,1-dimethylethyl)dimethylsilyl]cytidyl- (3'→5')-, 3'-ester with N-[(1,1-dimethylethoxy)carbonyl]-L-phenylalanine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

3

THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:145734 HCAPLUS

DOCUMENT NUMBER: 126:238616

TITLE: Studies on stereospecific formation of P-chiral internucleotide linkage: synthesis of all-Rp and all-Sp methylphosphonate pentanucleotide d(MMTrAPMeTPMeTPMeCPMeTAc) via Grignard Activated Coupling

AUTHOR(S): Jaworska-Maslanka, Maria M.; Kacperczyk, Wojciech; Korczynski, Dariusz; Lesnikowski, Zbigniew

CORPORATE SOURCE: Polish Academy of Sciences, Dep. of Bioorganic Chemistry, Lodz, 90-363, Pol.

SOURCE: Antisense & Nucleic Acid Drug Development (1997), 7(1), 23-30
CODEN: ANADF5; ISSN: 1087-2906

PUBLISHER: Liebert

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Synthesis of stereoregular 3',5'-protected all-Rp and all-Sp methylphosphonate heterooligonucleotides d(MMTrAPMeTPMeTPMeCPMeTAc) complementary to the fragment of HIV-1 splicing acceptor site was achieved via stereo-controlled formation of internucleotide linkage. The coupling was based on the transesterification of P-stereodefined monomer type of 5'-O-monomethoxytrityl-2'-O-deoxynucleoside 3'-O-[O-(4-nitrophenyl)methylphosphonate]. The nucleophile was a t-butylmagnesium chloride activated 5'-terminal hydroxyl function of the growing oligonucleotide chain. This and other P-homochiral oligomers will be used as building blocks for the synthesis of biol. significant, longer stereoregular oligonucleotides.

IT 188426-57-5P 188426-58-6P 188426-59-7P
188426-60-0P 188426-61-1P 188426-62-2P
188426-63-3P 188426-64-4P 188426-65-5P
188426-66-6P

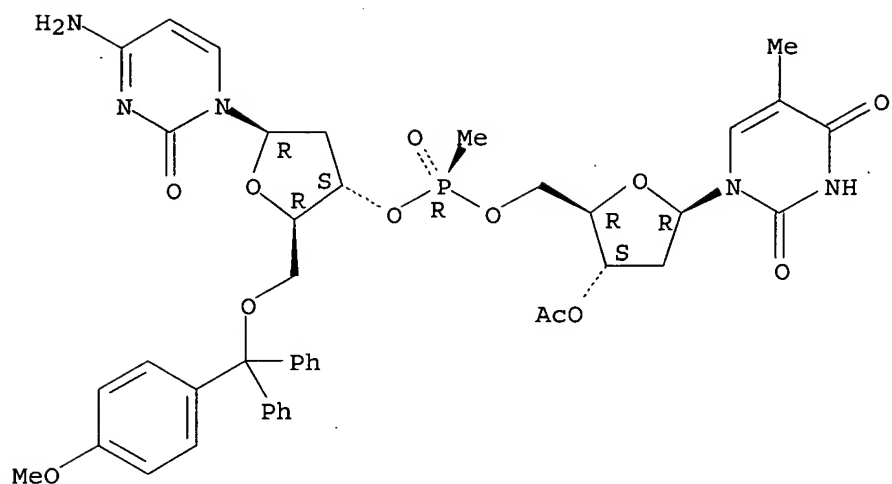
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis of all-Rp and all-Sp methylphosphonate pentanucleotide via Grignard Activated Coupling)

RN 188426-57-5 HCAPLUS

CN Thymidine, (R)-P,2'-dideoxy-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-methylcytidyl- (3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

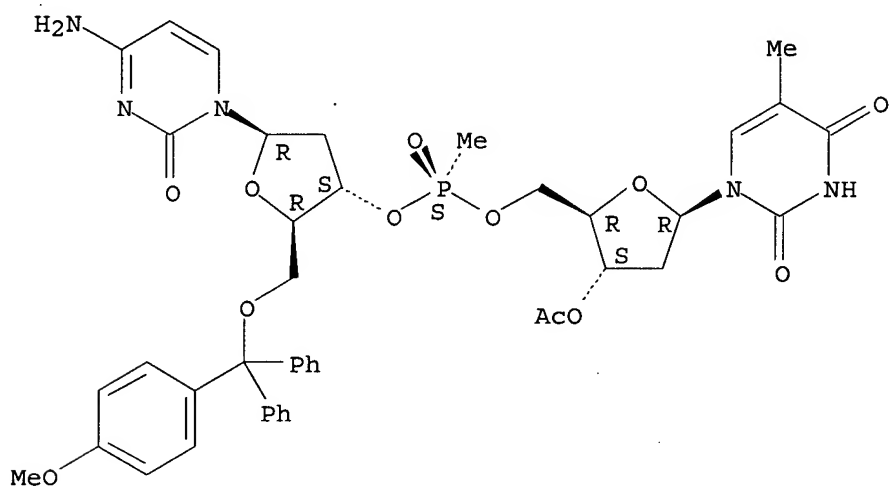
Absolute stereochemistry.



RN 188426-58-6 HCAPLUS

CN Thymidine, (S)-P,2'-dideoxy-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-methylcytidyl- (3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

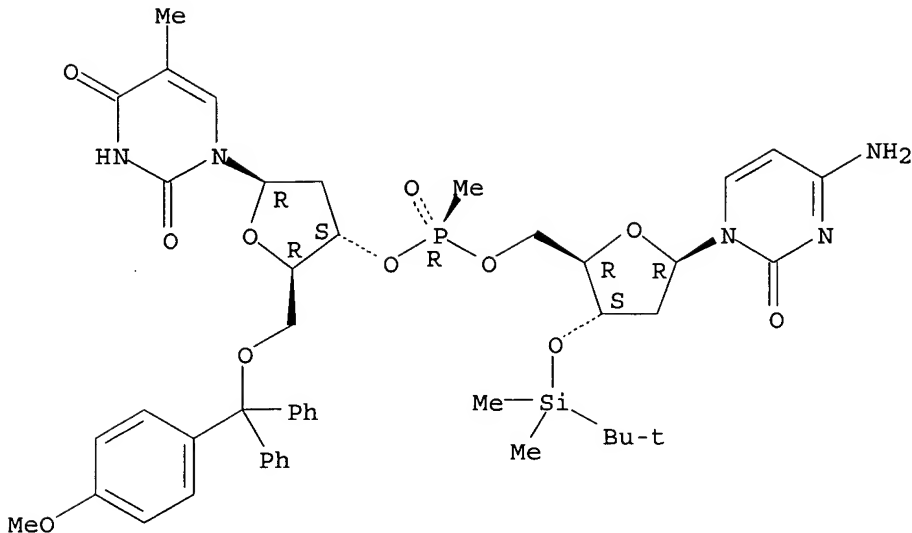
Absolute stereochemistry.



RN 188426-59-7 HCAPLUS

CN Cytidine, (R)-P-deoxy-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-methylthymidyl- (3'→5')-2'-deoxy-3'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

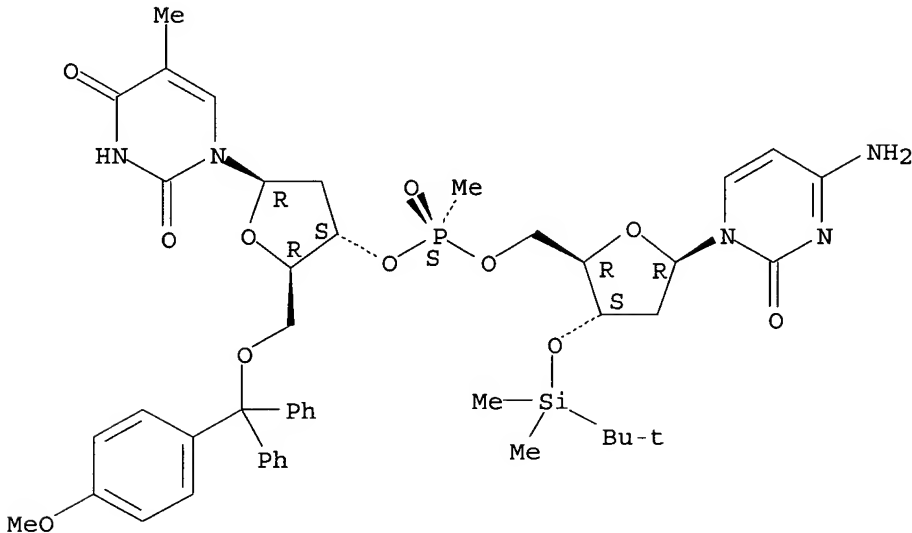
Absolute stereochemistry.



RN 188426-60-0 HCAPLUS

CN Cytidine, (S)-P-deoxy-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-methylthymidylyl-(3'→5')-2'-deoxy-3'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

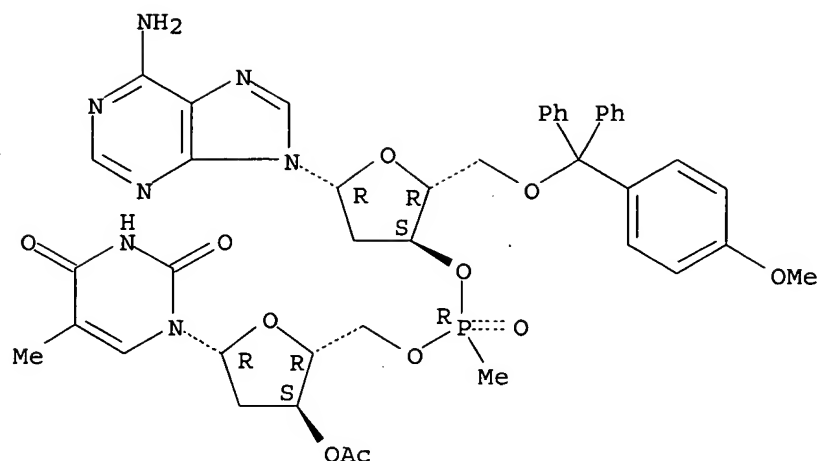
Absolute stereochemistry.



RN 188426-61-1 HCAPLUS

CN Thymidine, (R)-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P,2'-dideoxy-P-methyladenylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

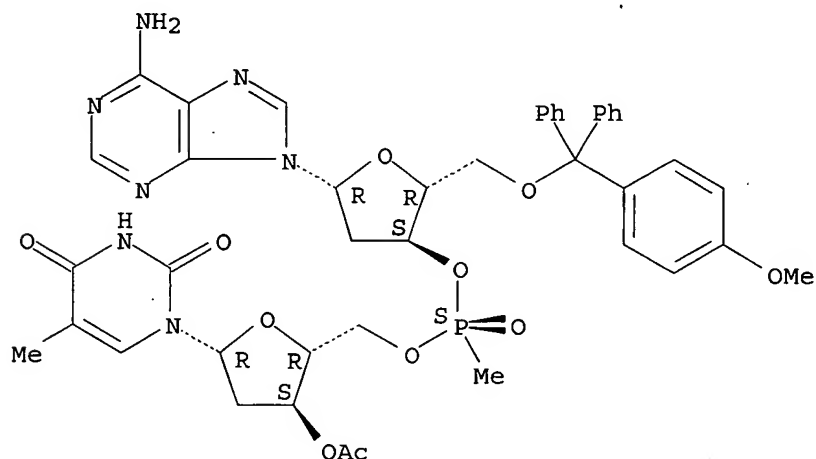
Absolute stereochemistry.



RN 188426-62-2 HCAPLUS

CN Thymidine, (S)-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P,2'-dideoxy-P-methyladenylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

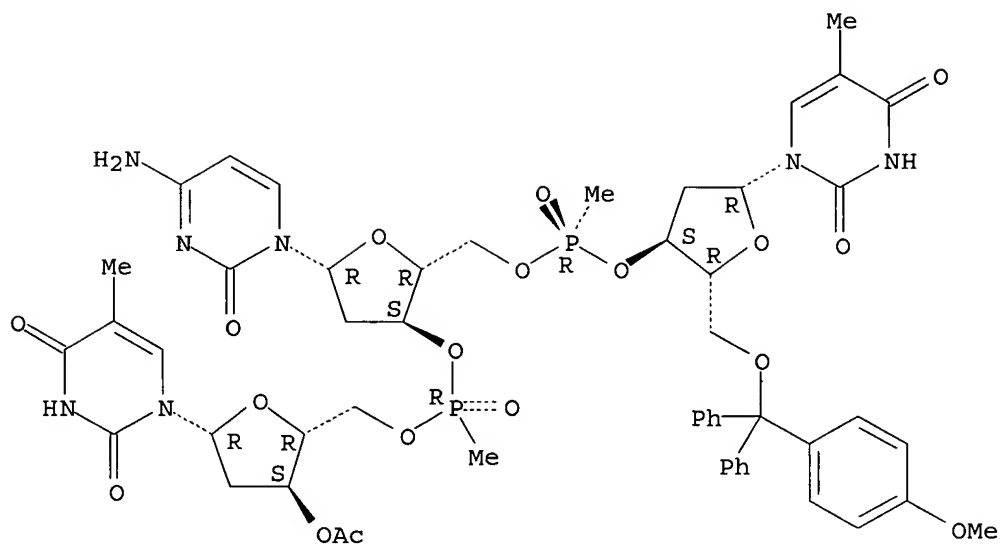
Absolute stereochemistry.



RN 188426-63-3 HCAPLUS

CN Thymidine, (R)-P-deoxy-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-methylthymidylyl-(3'→5')-(R)-P,2'-dideoxy-P-methylcytidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

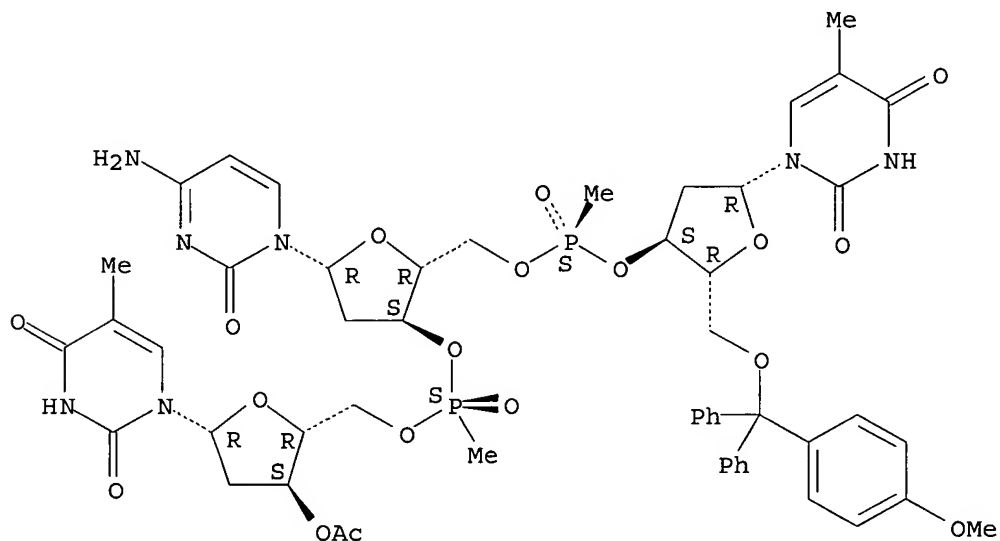
Absolute stereochemistry.



RN 188426-64-4 HCAPLUS

CN Thymidine, (S)-P-deoxy-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-methylthymidylyl-(3'→5')-(S)-P,2'-dideoxy-P-methylcytidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

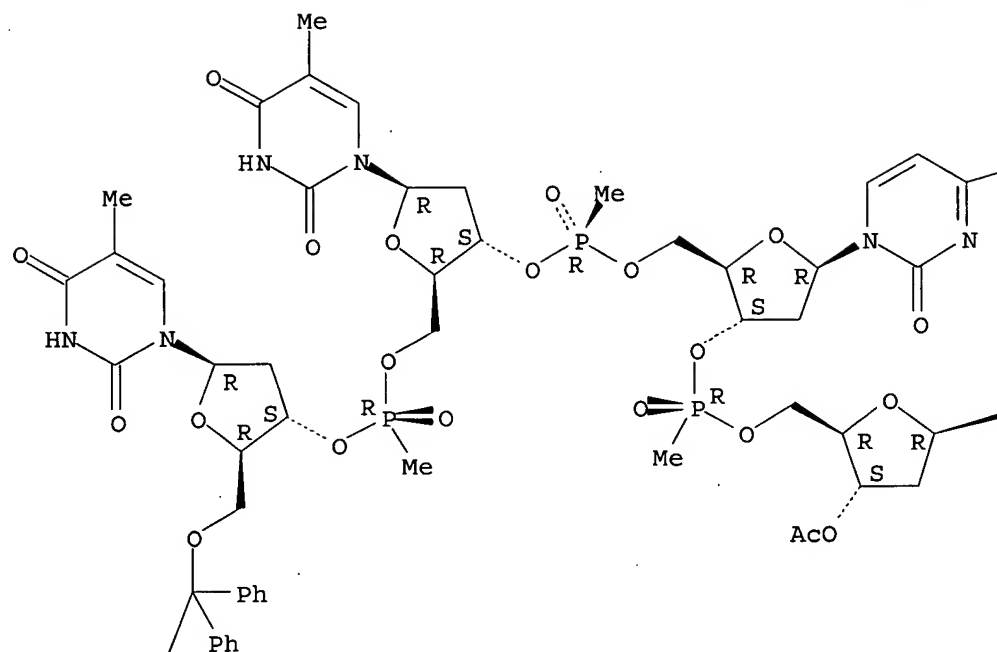


RN 188426-65-5 HCAPLUS

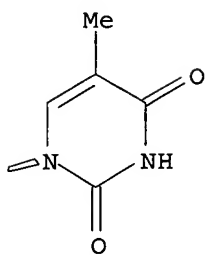
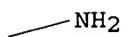
CN Thymidine, (R)-P-deoxy-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-methylthymidylyl-(3'→5')-(R)-P-deoxy-P-methylthymidylyl-(3'→5')-(R)-P,2'-dideoxy-P-methylcytidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

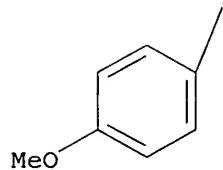
Absolute stereochemistry.

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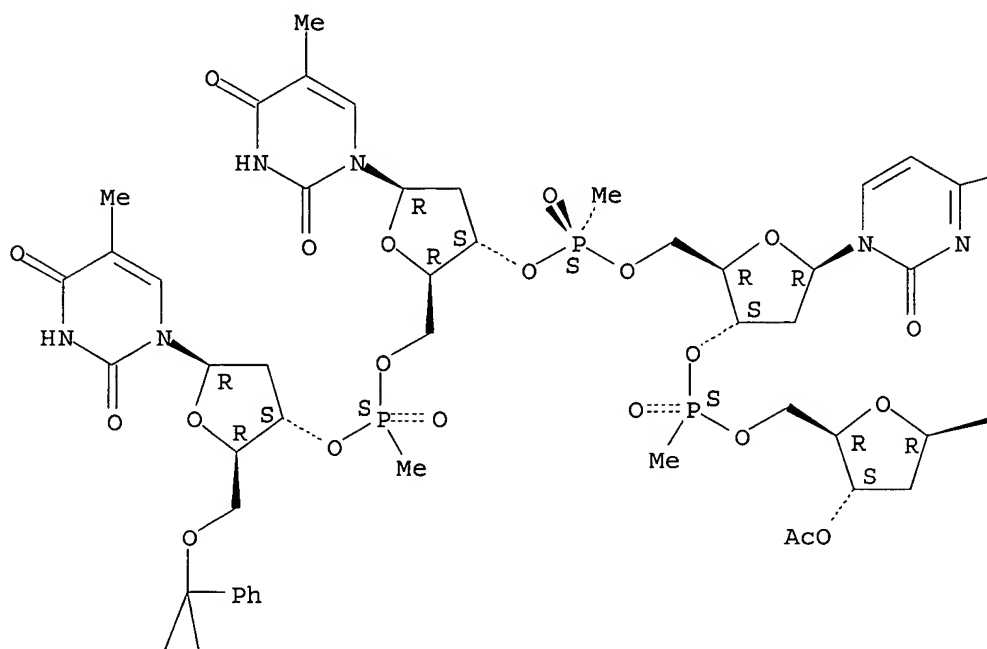




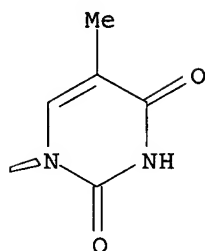
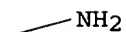
RN 188426-66-6 HCAPLUS

CN Thymidine, (S)-P-deoxy-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-methylthymidylyl-(3'→5')-(S)-P-deoxy-P-methylthymidylyl-(3'→5')-(S)-P,2'-dideoxy-P-methylcytidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

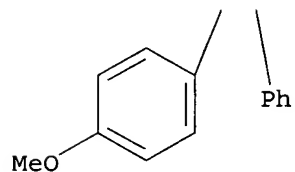
Absolute stereochemistry.



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IT 188426-67-7P 188426-68-8P

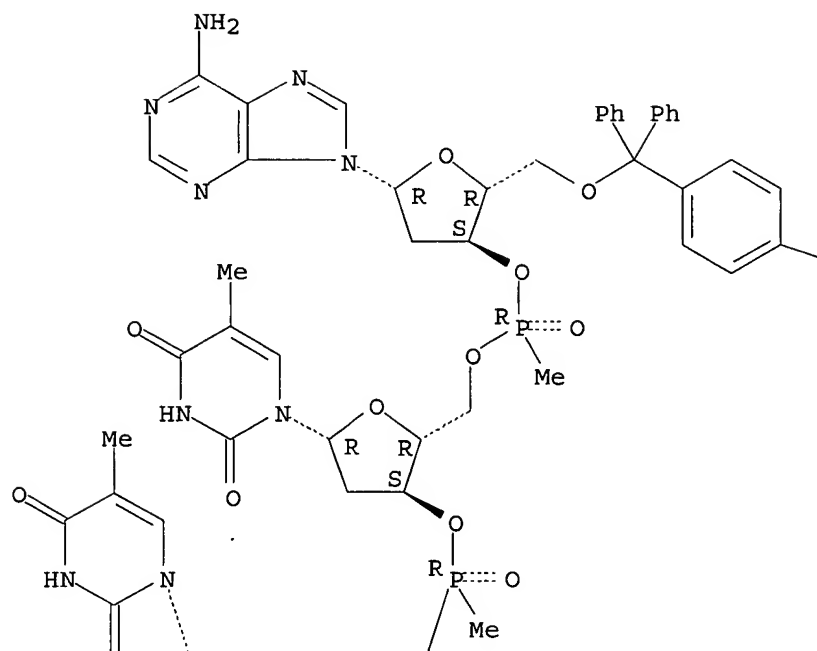
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of all-Rp and all-Sp methylphosphonate pentanucleotide via
Grignard Activated Coupling)

RN 188426-67-7 HCAPLUS

CN Thymidine, (R)-P,2'-dideoxy-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-
methyladenylyl-(3'→5')-(R)-P-deoxy-P-methylthymidylyl-
(3'→5')-(R)-P-deoxy-P-methylthymidylyl-(3'→5')-(R)-P,2'-
dideoxy-P-methylcytidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX
NAME)

Absolute stereochemistry.

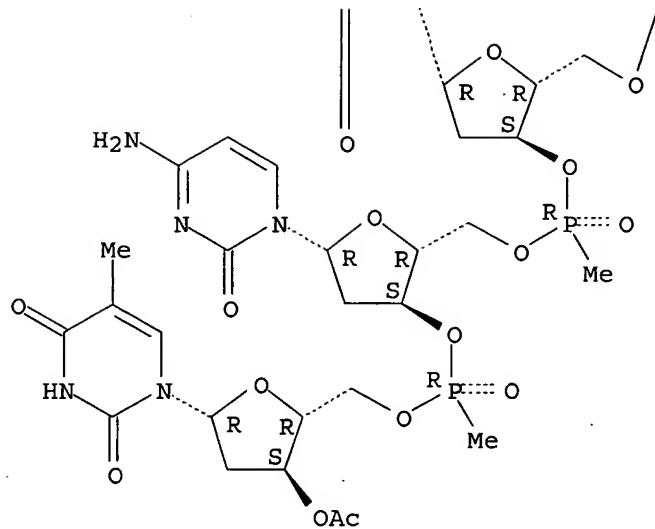
PAGE 1-A



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—OMe

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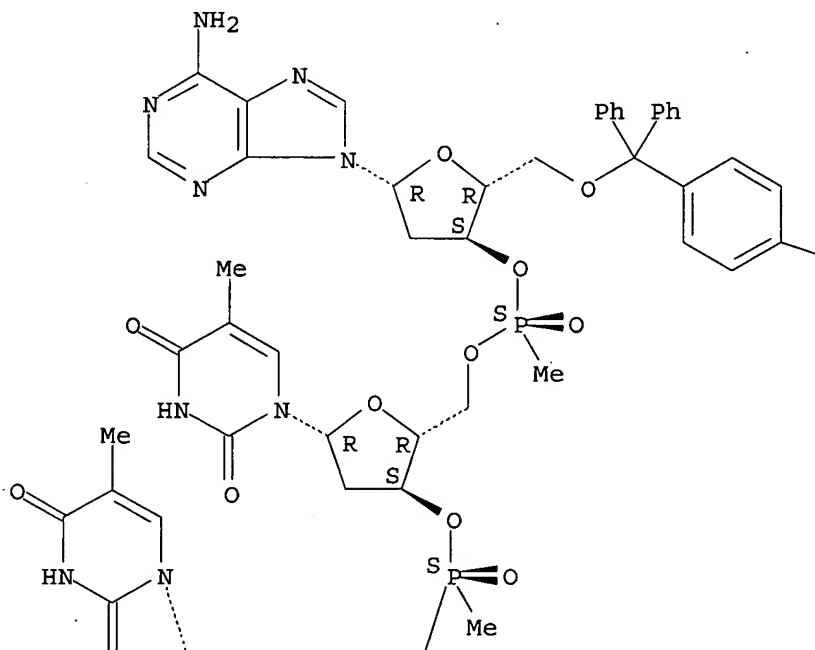


RN 188426-68-8 HCAPLUS

CN Thymidine, (S)-P,2'-dideoxy-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-methyladenylyl-(3'→5')-(S)-P-deoxy-P-methylthymidylyl-(3'→5')-(S)-P-deoxy-P-methylthymidylyl-(3'→5')-(S)-P,2'-dideoxy-P-methylcytidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

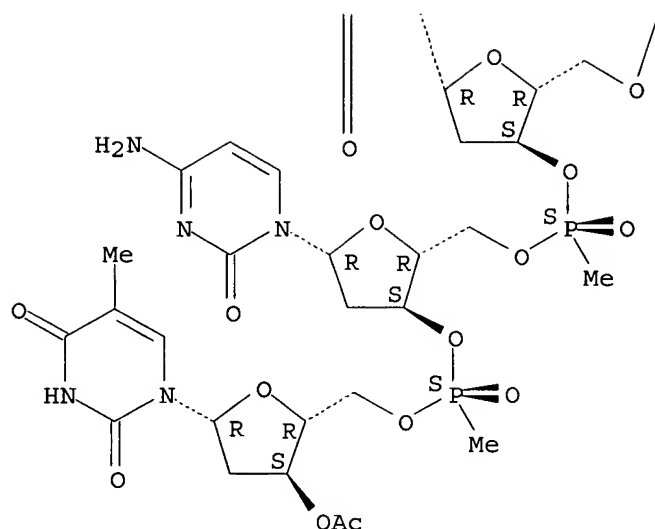
PAGE 1-A



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L47 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1995:266094 HCAPLUS
 DOCUMENT NUMBER: 122:291408
 TITLE: Base catalyzed transesterification method for internucleotide linkage formation
 AUTHOR(S): Lesnikowski, Zbigniew J.; Zabawska, Danuta; Jaworska-Maslanka, Maria M.; Schinazi, Raymond F.; Stec, Wojciech J.
 CORPORATE SOURCE: Pol. Acad. Sci., Dep. Bioorganic Chem., Lodz, 90-363, Pol.
 SOURCE: New Journal of Chemistry (1994), 18(11), 1197-204
 CODEN: NJCHE5; ISSN: 1144-0546
 PUBLISHER: Gauthier-Villars
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 122:291408
 AB A new method for oligodeoxyribonucleotide synthesis via organic base catalyzed transesterification, using readily available stable monomer derivs. of tetra-coordinated phosphorus was developed. The method can be potentially adapted to large-scale synthesis of short oligonucleotide

analogs in solution and is best suited for the synthesis of methylphosphonate oligonucleotide analogs. The strong organic bases such as 1,8-diazabicyclo[5.4.0]undec-7-ene (BDU) promote the coupling reaction, serving as base activators of the hydroxyl function of nucleoside component or as nucleophilic agents activating the nucleotide monomer.

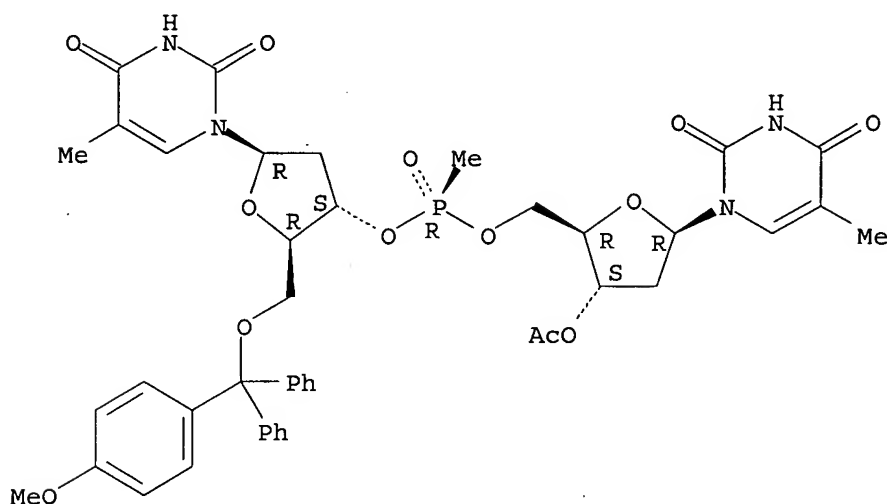
IT 111902-65-9P 121423-05-0P 121423-07-2P
162745-51-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(base catalyzed transesterification method for internucleotide linkage formation)

RN 111902-65-9 HCAPLUS

CN Thymidine, [P(R)]-P-deoxy-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-methylthymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

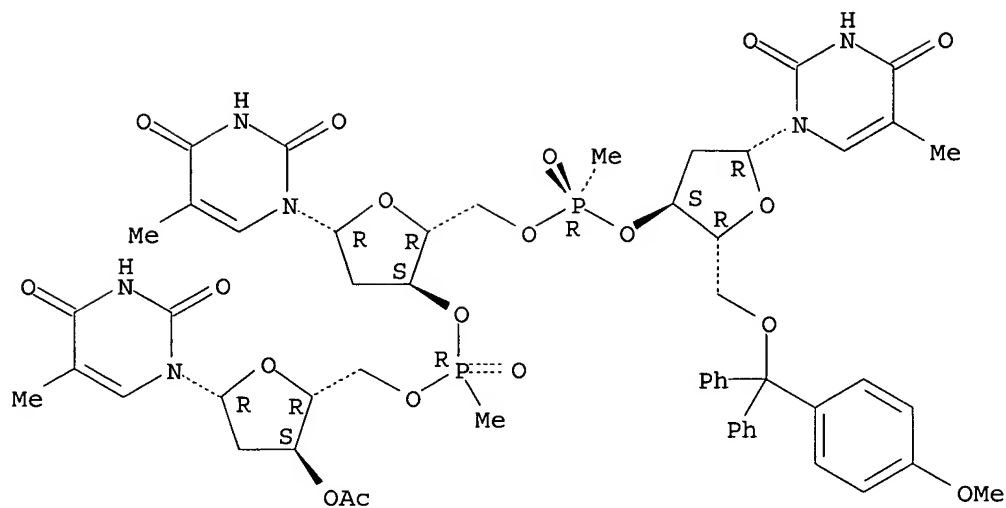
Absolute stereochemistry.



RN 121423-05-0 HCAPLUS

CN Thymidine, (R)-P-deoxy-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-methylthymidylyl-(3'→5')-(R)-P-deoxy-P-methylthymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

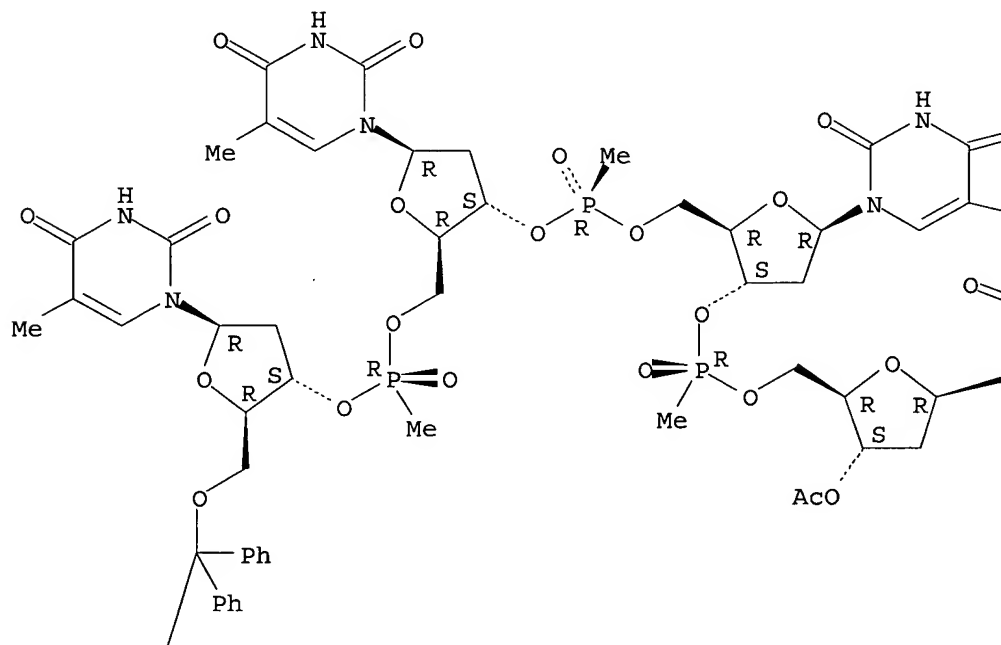


RN 121423-07-2 HCAPLUS

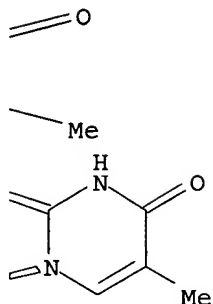
CN Thymidine, (R)-P-deoxy-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-methylthymidylyl-(3'→5')-(R)-P-deoxy-P-methylthymidylyl-(3'→5')-(R)-P-deoxy-P-methylthymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

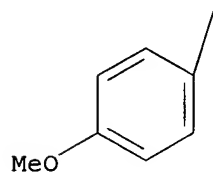
PAGE 1-A



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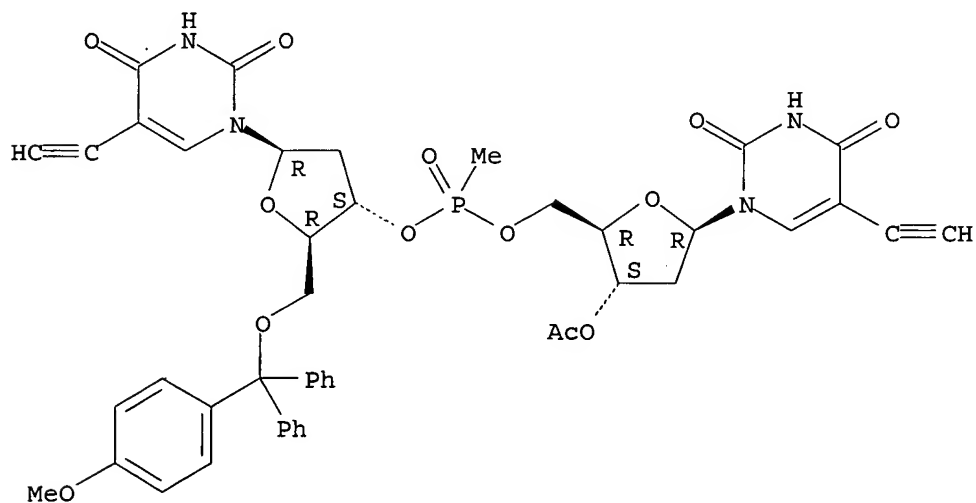


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RN 162745-51-9 HCAPLUS
 CN Uridine, P,2'-dideoxy-5-ethynyl-5'-O-[(4-methoxyphenyl)diphenylmethyl]-P-methyluridylyl-(3'→5')-2'-deoxy-5-ethynyl-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



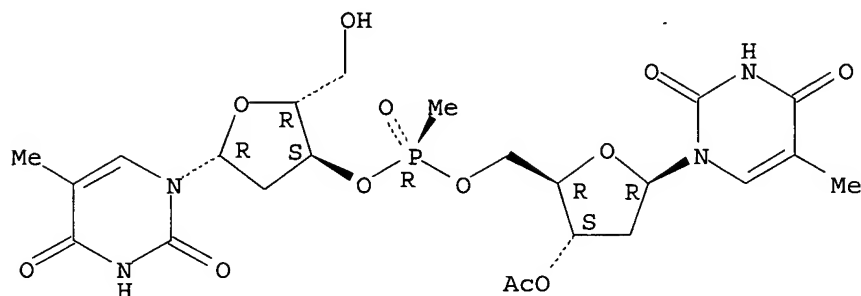
IT 121423-04-9P 121423-06-1P 131846-15-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (base catalyzed transesterification method for internucleotide linkage)

formation)

RN 121423-04-9 HCAPLUS

CN Thymidine, P-deoxy-P-methylthymidylyl-(3'→5')-, 3'-acetate, (R)-(9CI) (CA INDEX NAME)

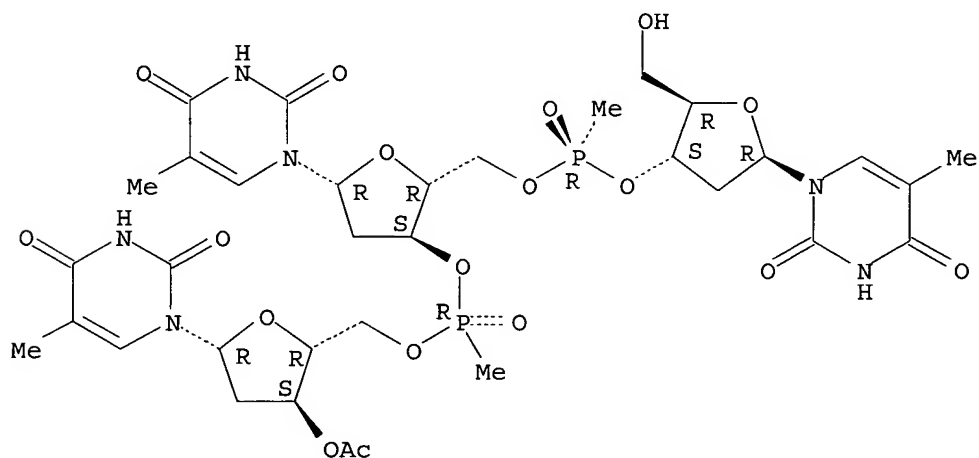
Absolute stereochemistry.



RN 121423-06-1 HCAPLUS

CN Thymidine, (R)-P-deoxy-P-methylthymidylyl-(3'→5')-(R)-P-deoxy-P-methylthymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

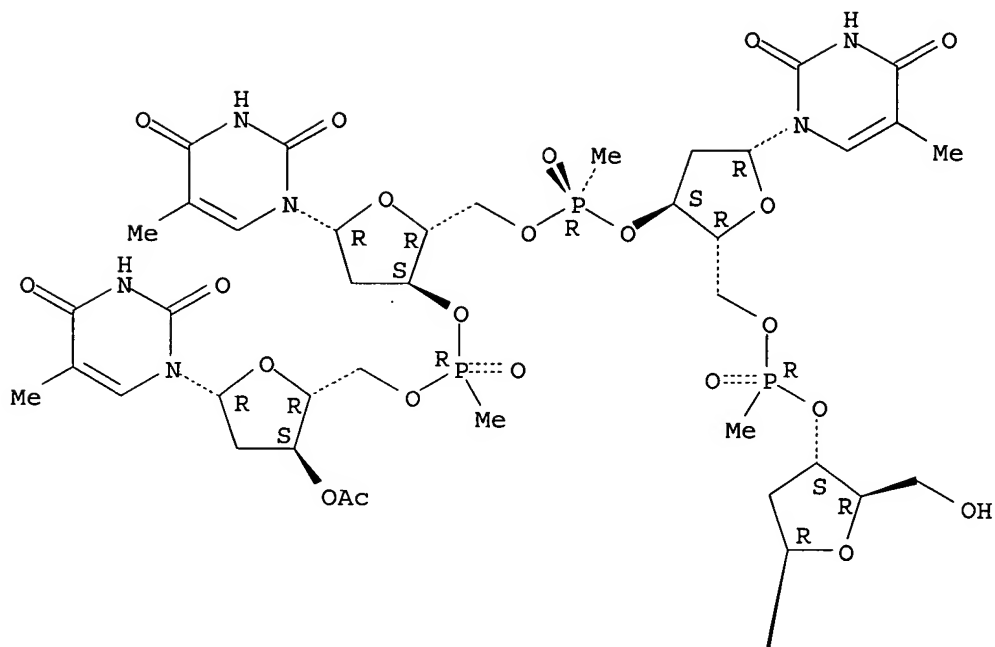


RN 131846-15-6 HCAPLUS

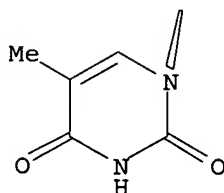
CN Thymidine, (R)-P-deoxy-P-methylthymidylyl-(3'→5')-(R)-P-deoxy-P-methylthymidylyl-(3'→5')-(R)-P-deoxy-P-methylthymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

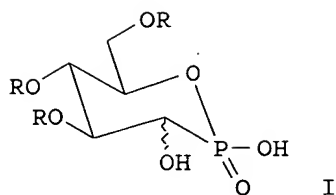
PAGE 1-A



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L47 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1994:631169 HCAPLUS
 DOCUMENT NUMBER: 121:231169
 TITLE: Cyclic Phosphonate Analogs of Hexopyranoses
 AUTHOR(S): Darrow, James W.; Drueckhammer, Dale G.
 CORPORATE SOURCE: Department of Chemistry, Stanford University,
 Stanford, CA, 94305, USA
 SOURCE: Journal of Organic Chemistry (1994), 59(11),
 2976-85
 CODEN: JOCEAH; ISSN: 0022-3263
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 121:231169
 GI



AB Acyclic and cyclic analogs of D-glucopyranose and-mannopyranose have been prepared in which the anomeric carbon has been replaced with a phosphorus. Base-catalyzed addition of di-Me phosphite to di-O-isopropylidene-D-arabinose followed by recrystn. yields only the acyclic gluco-isomer, through what appears to be a selective recrystn. process. The use of di-Et phosphite under similar conditions yielded only the acyclic manno-isomer. For the cyclic analogs I (R = H), synthesis consists of acid-catalyzed tri-Me phosphite addition to the carbonyl of a hydroxyl-protected open-chain D-arabinose derivative, removal of a formate ester from the 4-hydroxyl group, and base-catalyzed transesterification/cyclization. All four possible cyclic α -hydroxy phosphonate diastereomers were synthesized in roughly equal amts. Complete separation of the gluco- and manno-isomers was accomplished, and homonuclear two-dimensional J-spectroscopy was used to supplement standard NMR anal. in order to completely characterize the isolated diastereomers I (R = Bn) and assign gluco- and manno-stereochem., resp.

IT 53989-72-3P 53989-73-4P 158414-21-2P
158414-22-3P

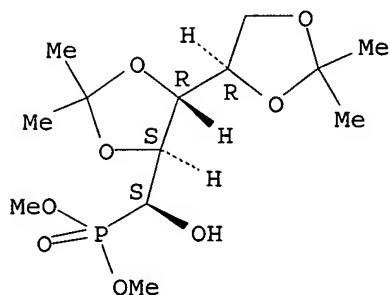
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reaction of, in synthesis of sugar methylphosphonates)

RN 53989-72-3 HCAPLUS

CN D-Arabinitol, 1-C-(dimethoxyphosphinyl)-2,3:4,5-bis-O-(1-methylethylidene)-, (S)- (9CI) (CA INDEX NAME)

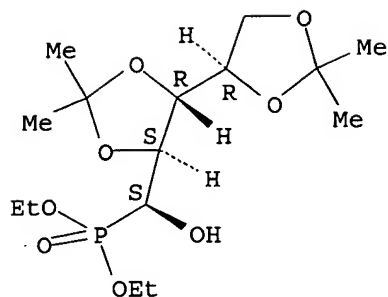
Absolute stereochemistry.



RN 53989-73-4 HCAPLUS

CN D-Arabinitol, 1-C-(diethoxyphosphinyl)-2,3:4,5-bis-O-(1-methylethylidene)-, (S)- (9CI) (CA INDEX NAME)

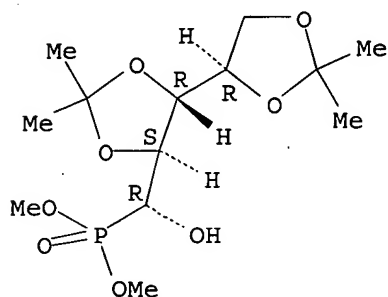
Absolute stereochemistry.



RN 158414-21-2 HCAPLUS

CN D-Arabinitol, 1-C-(dimethoxyphosphinyl)-2,3:4,5-bis-O-(1-methylethylidene)-, (1R)- (9CI) (CA INDEX NAME)

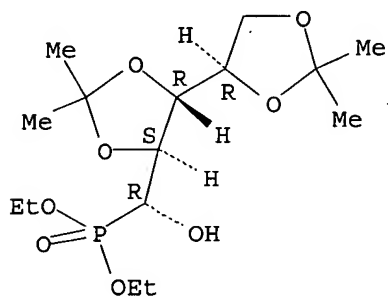
Absolute stereochemistry.



RN 158414-22-3 HCAPLUS

CN D-Arabinitol, 1-C-(diethoxyphosphinyl)-2,3:4,5-bis-O-(1-methylethylidene)-, (1R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L47 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1983:612860 HCAPLUS

DOCUMENT NUMBER: 99:212860

TITLE: Investigation of nonionic diastereomeric analogs of oligonucleotides. Synthesis and separation of diastereomers of di- and tetrathymidylate ethyl esters

AUTHOR(S): Abramova, T. V.; Lebedev, A. V.

CORPORATE SOURCE: Inst. Org. Chem., Novosibirsk, USSR
 SOURCE: Bioorganicheskaya Khimiya (1983), 9(6),
 824-31
 CODEN: BIKHD7; ISSN: 0132-3423

DOCUMENT TYPE: Journal
 LANGUAGE: Russian

AB (Tr)Tp(ClPh)T(Ac) (Tr = trityl), (Tr)Tp(Et)T(Ac), and Tp(Et)T were prepared and diastereomers of each dinucleotide were separated by silica gel chromatog. Tetranucleotides (Tr)Tp(Et)Tp(Et)Tp(Et)T(Ac) and (Tr)Tp(Et)T(Et)Tp(Et)Tp(ClPh) were prepared by condensation of the individual diastereomeric dinucleotides followed by transesterification of p-chlorophenyl group by the Et group. Each of the tetranucleotides was obtained as a mixture of 2 diastereomers due to the new internucleotide asym. P atom. These diastereomers were separated by reversed-phase chromatog. Racemization occurred during transesterification of the p-chlorophenyl group by Et group in the presence of CsF. UV, CD, ¹H and ³¹P NMR spectra were determined for diastereomers.

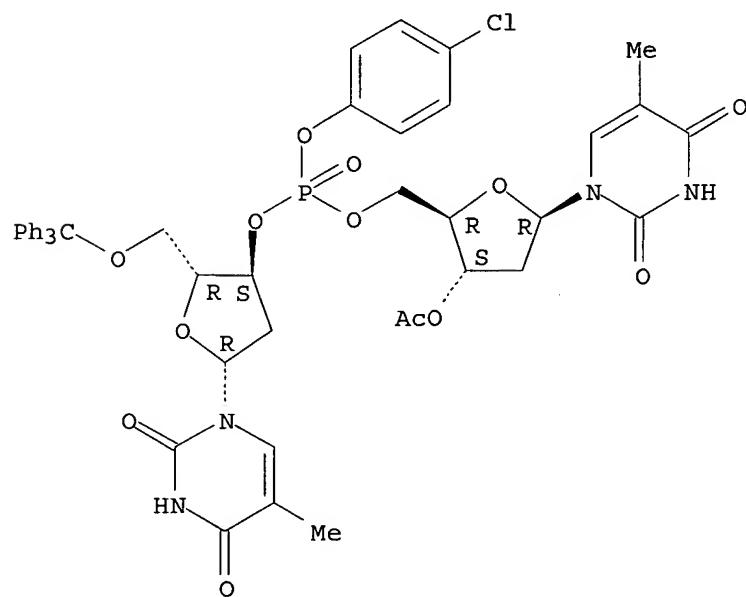
IT 78710-08-4P 87903-43-3P 87903-45-5P
 87903-46-6P 87936-56-9P 87936-57-0P
 87936-58-1P 87936-59-2P 87936-60-5P
 87936-61-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and physicochem. properties of)

RN 78710-08-4 HCAPLUS

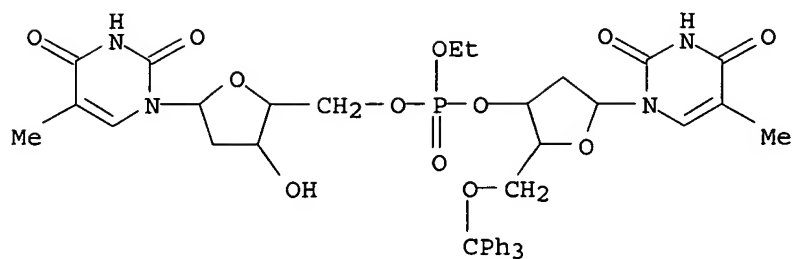
CN Thymidine, P-(4-chlorophenyl)-5'-O-(triphenylmethyl)thymidylyl-
 (3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 87903-43-3 HCAPLUS

CN Thymidine, [P(R)]-P-ethyl-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-
 (9CI) (CA INDEX NAME)

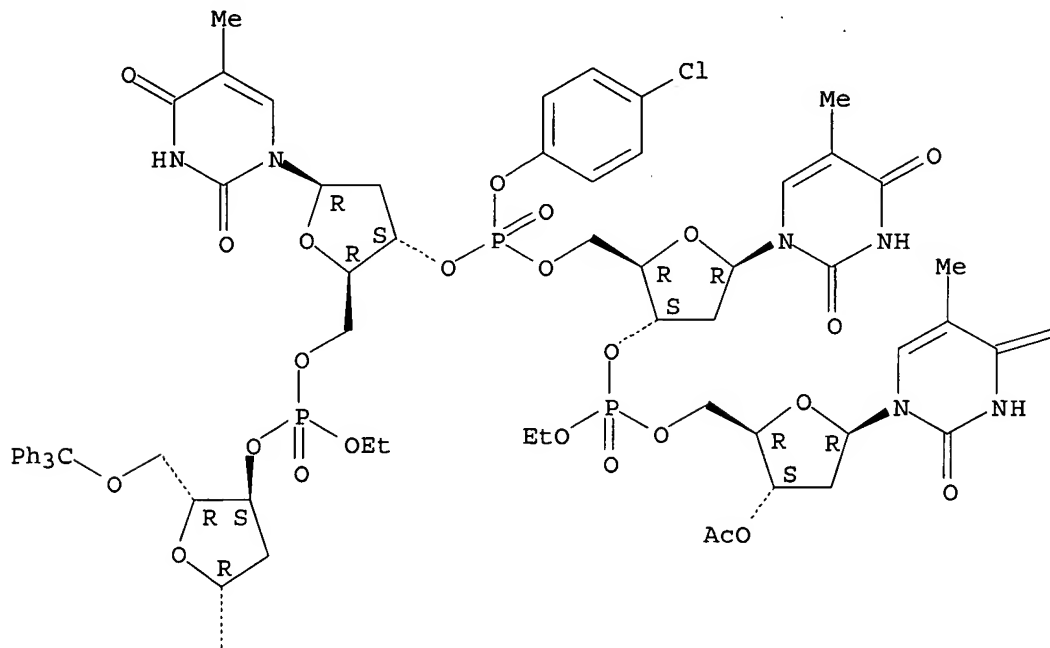


RN 87903-45-5 HCAPLUS

CN Thymidine, P-ethyl-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-P-(4-chlorophenyl)thymidylyl-(3'→5')-P-ethylthymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

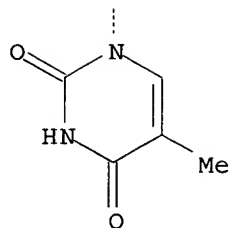
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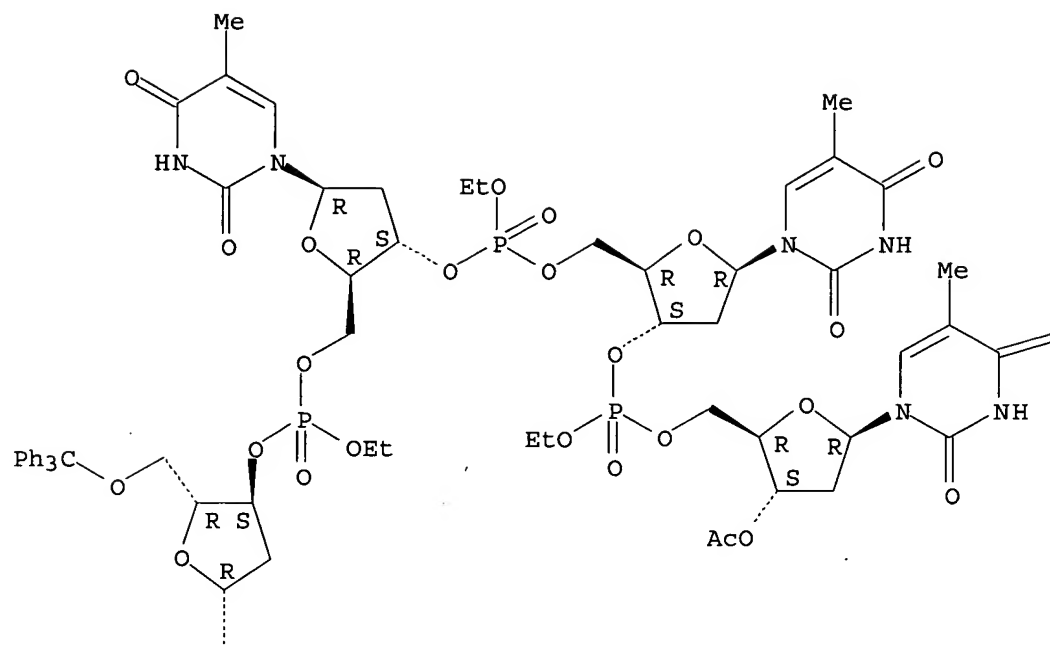


RN 87903-46-6 HCAPLUS

CN Thymidine, P-ethyl-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-P-ethylthymidylyl-(3'→5')-P-ethylthymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

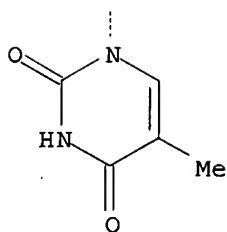
PAGE 1-A



PAGE 1-B

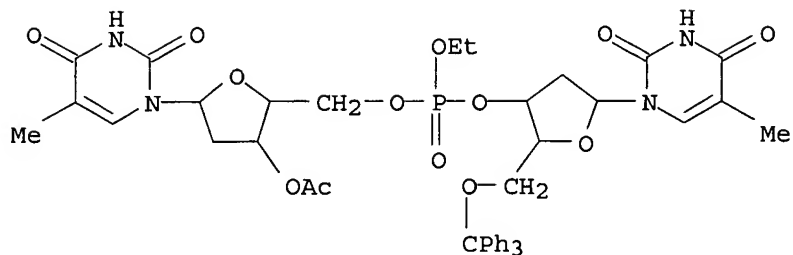
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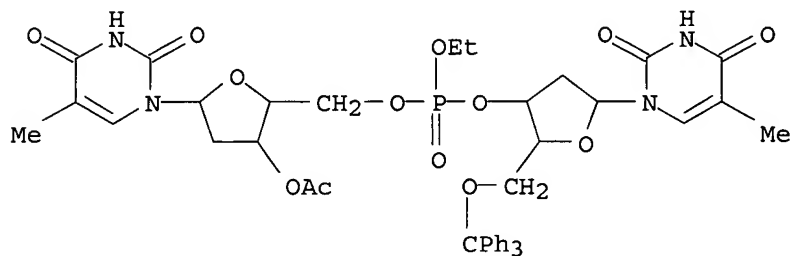
RN 87936-56-9 HCAPLUS
 CN Thymidine, [P(R)]-P-ethyl-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-

, 3'-acetate (9CI) (CA INDEX NAME)



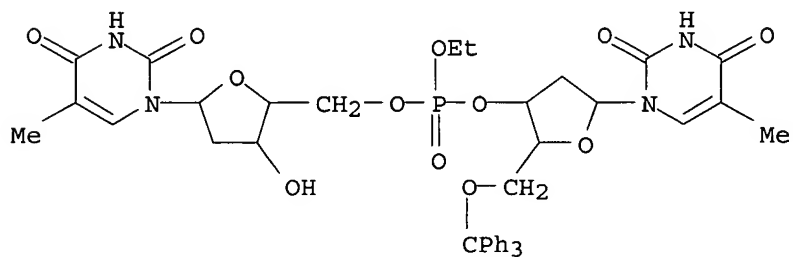
RN 87936-57-0 HCAPLUS

CN Thymidine, [P(S)]-P-ethyl-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)



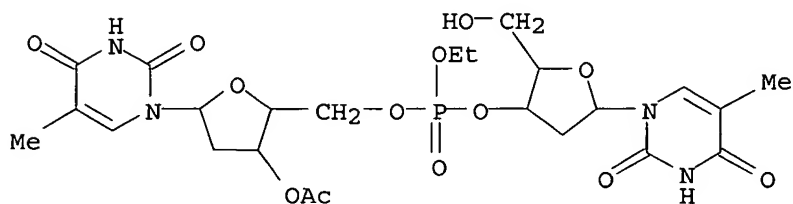
RN 87936-58-1 HCAPLUS

CN Thymidine, [P(S)]-P-ethyl-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-, (9CI) (CA INDEX NAME)



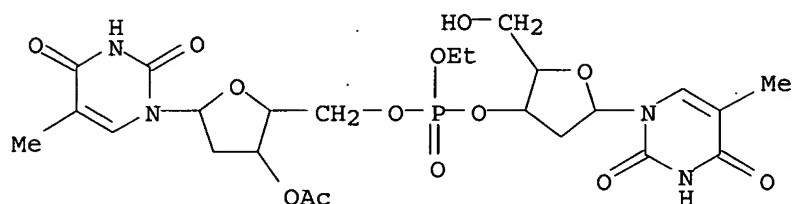
RN 87936-59-2 HCAPLUS

CN Thymidine, P-ethylthymidylyl-(3'→5')-, 3'-acetate, (R)- (9CI) (CA INDEX NAME)



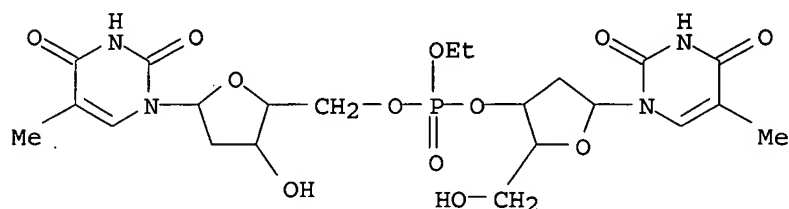
RN 87936-60-5 HCAPLUS

CN Thymidine, P-ethylthymidylyl-(3'→5')-, 3'-acetate, (S)- (9CI) (CA INDEX NAME)



RN 87936-61-6 HCAPLUS

CN Thymidine, P-ethylthymidylyl-(3'→5')-, (R)- (9CI) (CA INDEX NAME)

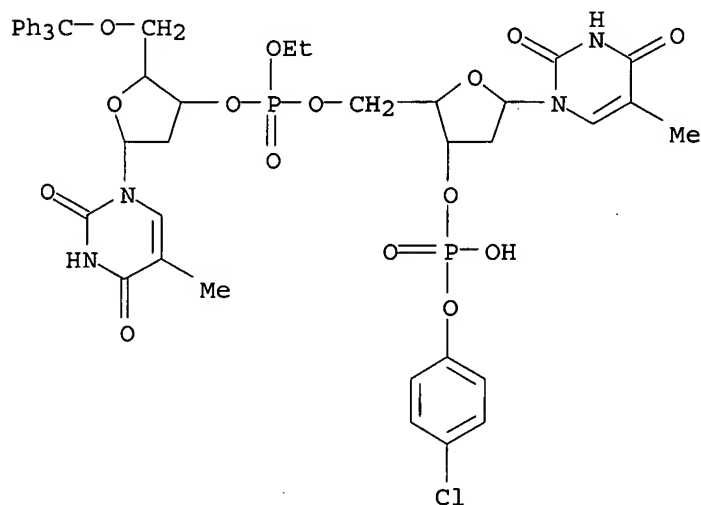


IT 87903-44-4P 87903-47-7P 87936-63-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and transesterification of)

RN 87903-44-4 HCAPLUS

CN 3'-Thymidylic acid, P-ethyl-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-, mono(4-chlorophenyl) ester, (R)- (9CI) (CA INDEX NAME)



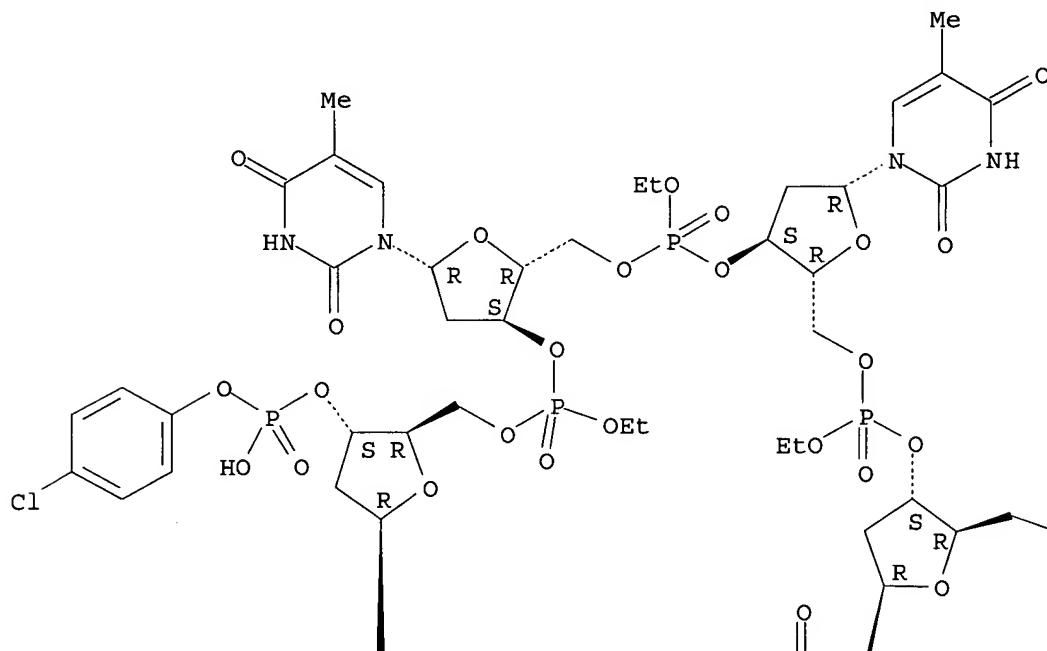
RN 87903-47-7 HCAPLUS

CN 3'-Thymidylic acid, P-ethyl-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-P-ethylthymidylyl-(3'→5')-P-ethylthymidylyl-

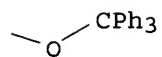
(3'→5')-, mono(4-chlorophenyl) ester (9CI) (CA INDEX NAME)

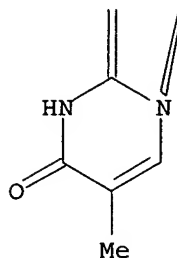
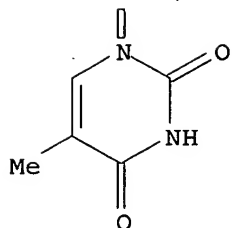
Absolute stereochemistry.

PAGE 1-A



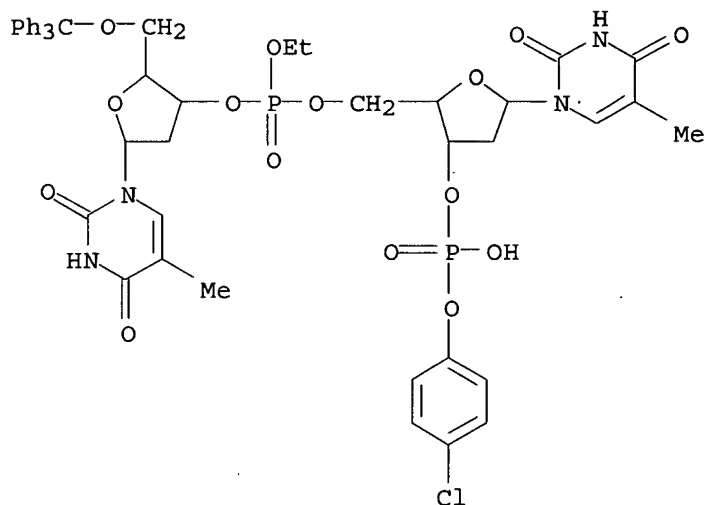
PAGE 1-B





RN 87936-63-8 HCAPLUS

CN 3'-Thymidylic acid, P-ethyl-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-, mono(4-chlorophenyl) ester, (S)- (9CI) (CA INDEX NAME)

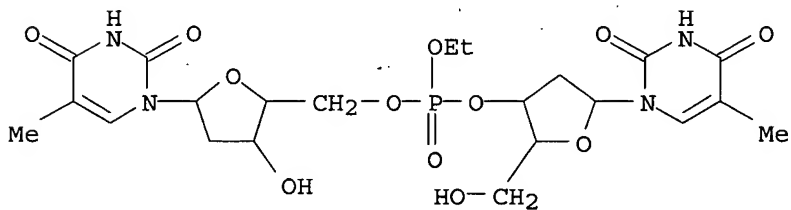


IT 87936-62-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 87936-62-7 HCAPLUS

CN Thymidine, P-ethylthymidylyl-(3'→5')-, (S)- (9CI) (CA INDEX NAME)



L47 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1979:6640 HCAPLUS

DOCUMENT NUMBER: 90:6640

TITLE: Transesterifications in the synthesis of dinucleoside

phosphates containing dihydropyrimidine nucleoside residues

AUTHOR(S): Skaric, V.; Hohnjec, M.; Skaric, D.
 CORPORATE SOURCE: Lab. Stereochem. Nat. Prod., "Rudjer Boskovic" Inst., Zagreb, Yugoslavia
 SOURCE: Croatica Chemica Acta (1977), 49(4), 851-6
 CODEN: CCACAA; ISSN: 0011-1643
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Reaction of 2',3'-O-isopropylidene-5,6-dihydrouridine 5'-di-p-nitrophenyl phosphate (I) with 5'-O-sodium-2',3'-O-isopropylideneuridine (II) gave 69% III. Similarly, treatment of 5'-O-tritylthymidine-3'-O-di-p-nitrophenyl phosphate with II or 5'-O-sodium-2',3'-O-isopropylidene-5,6-dihydrouridine gave 59% IV (R = Ph₃C, R₁ = R₂, X = CMe₂) (V), and 48% IV (R = Ph₃C, R = R₃, X = CMe₂) (VI), resp. VI was obtained in 14% yield in the reaction of I with 3'-O-sodium-5'-O-tritylthymidine. Deprotection of V by dilute AcOH gave 61% IV (R = H, X = CMe₂, R₁ = R₂) and 66% IV (R = H, R₁ = R₂, X = H₂). Using P2S₅ VI was converted to the 4-thio analog which on ammonolysis gave the 5,6-dihydrocytidine derivative

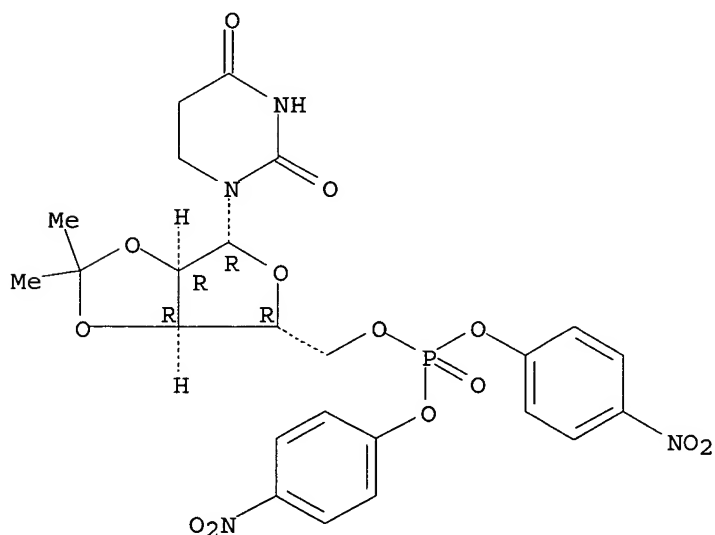
IT 67258-36-0

RL: RCT (Reactant); RACT (Reactant or reagent)
 (condensation of, with uridine and thymidine derivs.)

RN 67258-36-0 HCAPLUS

CN 5'-Uridylic acid, 5,6-dihydro-2',3'-O-(1-methylethylidene)-, bis(4-nitrophenyl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 67258-43-9P

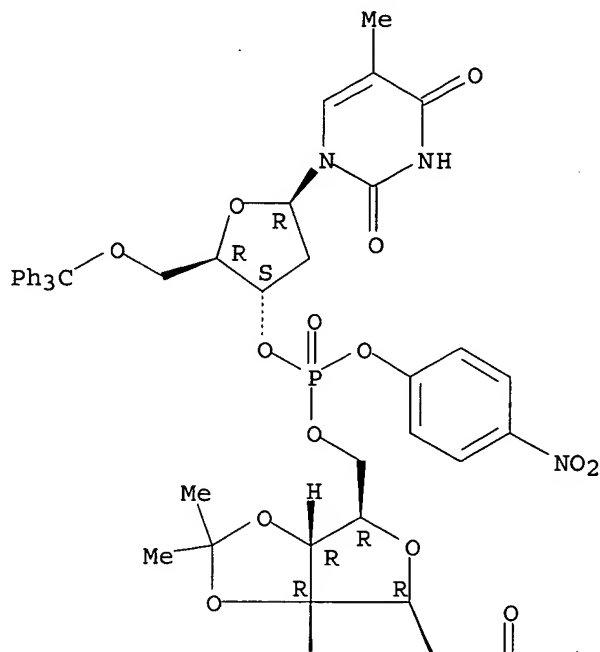
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and ammonolysis of)

RN 67258-43-9 HCAPLUS

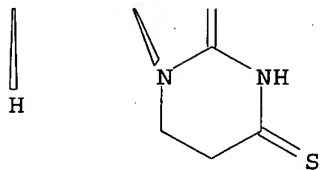
CN Uridine, P-(4-nitrophenyl)-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-5,6-dihydro-2',3'-O-(1-methylethylidene)-4-thio- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



IT 67258-38-2P

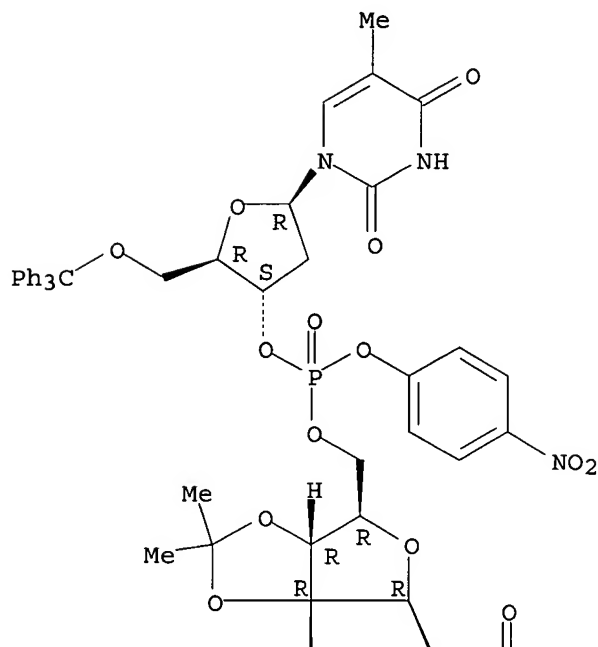
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reactions of)

RN 67258-38-2 HCAPLUS

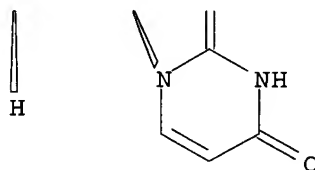
CN Uridine, P-(4-nitrophenyl)-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-2',3'-O-(1-methylethylidene)- (9CI). (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



IT 67258-39-3P 67258-41-7P 67258-42-8P
67258-44-0P 67377-26-8P

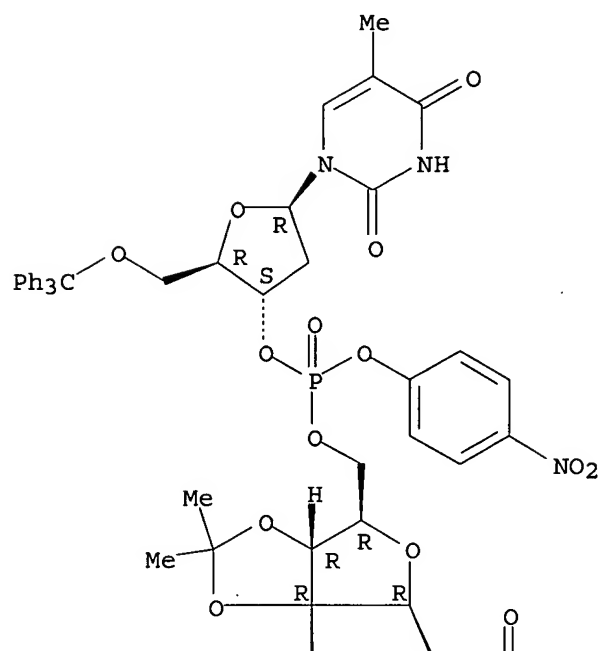
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 67258-39-3 HCAPLUS

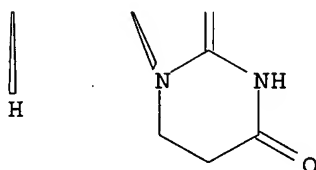
CN Uridine, P-(4-nitrophenyl)-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-
5,6-dihydro-2',3'-O-(1-methylethylidene)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



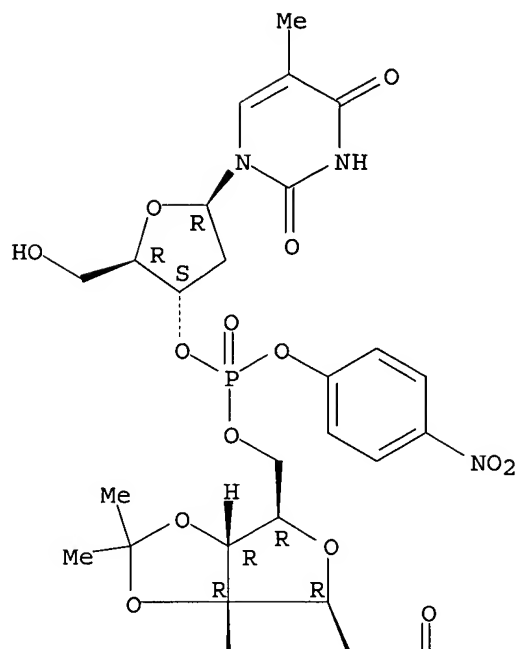
PAGE 2-A



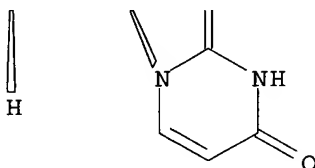
RN 67258-41-7 HCAPLUS
 CN Uridine, P-(4-nitrophenyl)thymidylyl-(3'→5')-2',3'-O-(1-methylethylidene)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

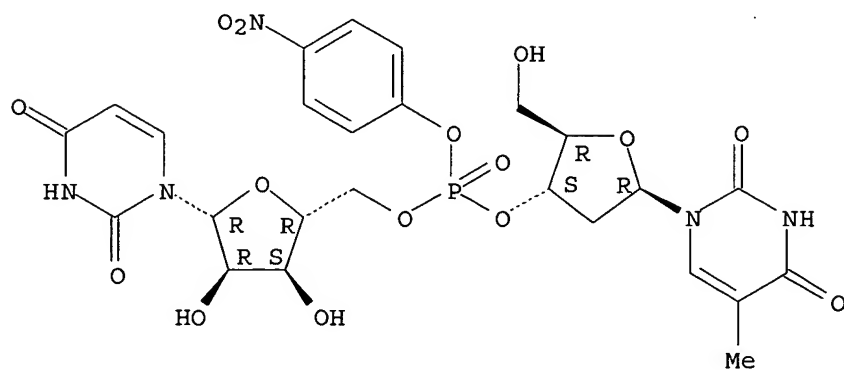


PAGE 2-A



RN 67258-42-8 HCAPLUS
 CN Uridine, P-(4-nitrophenyl)thymidylyl-(3'→5')- (9CI) (CA INDEX NAME)

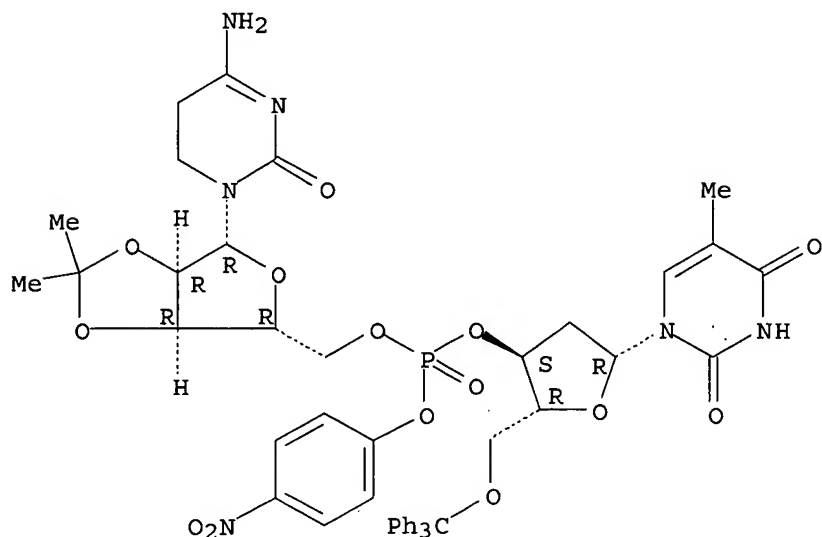
Absolute stereochemistry.



RN 67258-44-0 HCAPLUS

CN Cytidine, P-(4-nitrophenyl)-5'-O-(triphenylmethyl)thymidylyl-(3'→5')-2',3'-O-(1-methylethylidene)-(9CI) (CA INDEX NAME)

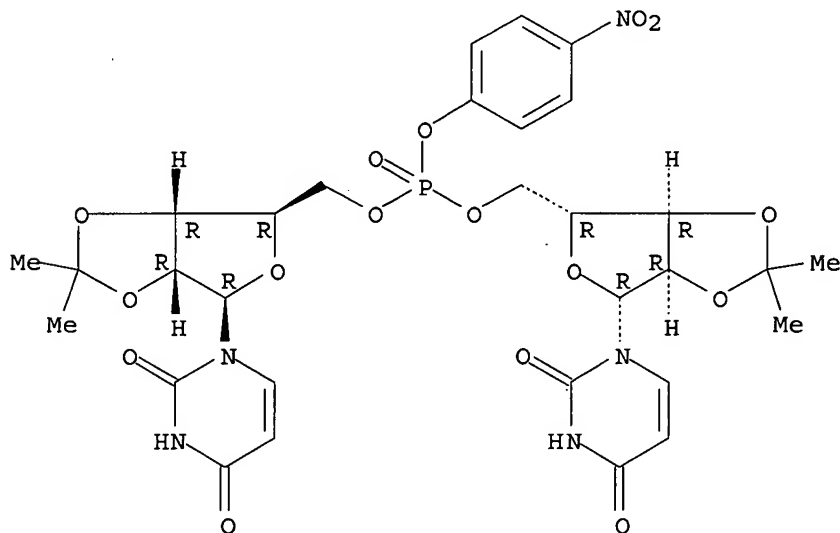
Absolute stereochemistry.



RN 67377-26-8 HCAPLUS

CN Uridine, 2',3'-O-(1-methylethylidene)-P-(4-nitrophenyl)uridylyl-(5'→5')-2',3'-O-(1-methylethylidene)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



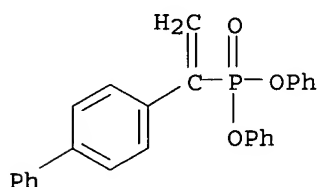
L47 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1978:6976 HCAPLUS

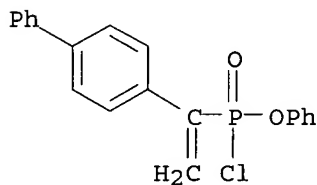
DOCUMENT NUMBER: 88:6976

TITLE: Reaction of phosphorus(III) halides with some ketones

AUTHOR(S): Nurtdinov, S. Kh.; Gubaidullina, R. Sh.;
 Rakhimzyanova, N. S.; Sultanova, R. B.; Zykova, T. V.
 CORPORATE SOURCE: USSR
 SOURCE: Khimiya i Tekhnol. Elementoorgan. Soedin. i Polimerov
 (1976), (5), 15-19
 From: Ref. Zh., Khim. 1977, Abstr. No. 13Zh384
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 AB Title only translated.
 IT **64862-41-5P 64862-42-6P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 64862-41-5 HCAPLUS
 CN Phosphonic acid, (1-[1,1'-biphenyl]-4-ylethenyl)-, diphenyl ester (9CI)
 (CA INDEX NAME)



RN 64862-42-6 HCAPLUS
 CN Phosphonochloridic acid, (1-[1,1'-biphenyl]-4-ylethenyl)-, phenyl ester
 (9CI) (CA INDEX NAME)

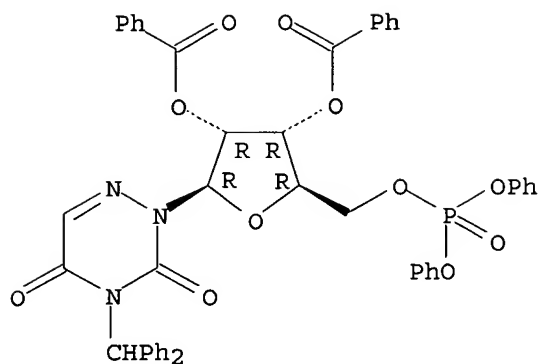


L47 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1965:82885 HCAPLUS
 DOCUMENT NUMBER: 62:82885
 ORIGINAL REFERENCE NO.: 62:14799d-h
 TITLE: Nucleic acids components and their analogs. LVII.
 Synthesis of 6-azauridine 5'-phosphate and its
 5-methyl derivative on condensation of a
 phosphorylated ribofuranosyl halide with salts of
 protected 6-azauracils
 AUTHOR(S): Prystas, M.; Sorm, F.
 CORPORATE SOURCE: Ceskoslov. Akad. Ved, Prague
 SOURCE: Collection of Czechoslovak Chemical Communications (
 1965), 30(2), 537-46
 CODEN: CCCCAK; ISSN: 0010-0765
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 62:82885
 AB cf. ibid. 81-9, 90-8; CA 62, 6547d. 6-Aza-3-diphenylmethyluracil Hg salt
 (456 mg.) and 2,3-di-O-benzoyl-5-O-diphenylphosphoryl-D-ribofuranosyl

bromide (Ia) (from 1.2 millimoles Me riboside) (CA 58, 1459e; Ukita and Hayatsu, CA 57, 9930g) in 35 ml. xylene was refluxed 80 min. to give 85 mg. oily 6-aza(2,3-di-O-benzoyl-5-O-diphenylphosphoryl- β -D-ribofuranosyl)-3-diphenylmethyl-1-uracil, yielding, on hydrogenolysis over 10% Pd/C at 50° for 10 hrs., 71% 6-aza-1-(2,3-di-O-benzoyl-5-O-diphenylphosphoryl- β -D-ribofuranosyl)uracil (I), m. 192-3° (EtOH), $[\alpha]_{20D}^{20} -50.0^\circ$ (c 0.094, CHCl₃), identical with the product obtained in 42% yield by benzoylation of 6-azauridine 5'-(diphenyl phosphate) (II). II was obtained in 17.5-mg. yield when 34.3 mg. I in 5 ml. 0.016M MeONa-MeOH was kept 6 hrs. and neutralized with Dowex 50 W(H⁺). Hydrogenolysis of 68.6 mg. I in MeOH over 50 mg. PtO₂ for 5 hrs. afforded 24.5 mg. 6-azauridine 5'-(phenyl phosphate) (III), while hydrogenolysis of II and III over PtO₂ at 50° for 12 and 8 hrs., resp., gave in both cases 6-azauridine 5'-phosphate, isolated as the Ba salt, along with a by-product identified as 6-aza-5,6-dihydrouridine 5'-phosphate. 6-Aza-5-methyluridine 5'-phosphate (IV) was obtained analogously. Thus, 6-aza-5-methyl-3-diphenylmethyluracil Hg salt (785 mg.) was refluxed 1 hr. with Ia (from 2 millimoles Me riboside) and the product chromatographed repeatedly over (2,3-di-O-benzoyl-5-O-diphenylphosphoryl- β -D-ribofuranosyl)-Al₂O₃ in various solvent systems to give 156 mg. oily 6-aza-5-methyl-3-diphenylmethyluracil (V), yielding on partial hydrogenolysis over 10% Pd/C for 8 hrs. at 45° 85% 6-aza-1-(2,3-di-O-benzoyl-5-methyl-5-O-diphenylphosphoryl- β -D-ribofuranosyl)uracil (VI). **Alcoholysis** of 17.5 mg. VI 3 hrs. in 1.5 ml. 0.02M MeONa-MeOH gave 10 mg. 6-aza-5-methyluridine 5'-(diphenyl phosphate). Hydrogenolysis of 70 mg. VI over 420 mg. PtO₂ in EtOH 20 hrs. gave 6-aza-2',3'-di-O-hexahydro-benzoyl-5-methyluridine 5'-phosphate, yielding, on methanolysis as above, IV, isolated as the Ba and dicyclohexylammonium salts. IV was also obtained in 40-mg. yield by total hydrogenolysis of 87 mg. V. The structure and β -D-configuration on the C-1 atom of the sugar moiety of IV was proved by enzymic dephosphorylation by calf intestine alkaline phosphatase in Tris buffer and 0.005M MgSO₄ solution, yielding 6-aza-5-methyluridine. The described procedures suggest general applicability for the synthesis of 6-aza-1-glycosyluracils, especially of nucleotides derived from 5-substituted 6-azauracils, since no hydrogenation of the 6-azauracil ring occurs on hydrogenolysis.

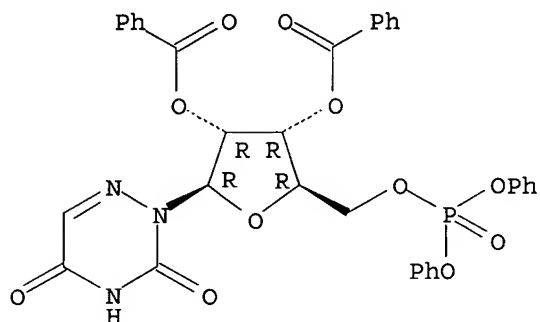
- IT 2672-67-5, as-Triazine-3,5(2H,4H)-dione, 4-(diphenylmethyl)-2- β -D-ribofuranosyl-, 2',3'-dibenzoate 5'-(di-Ph phosphate)
 2672-68-6, as-Triazine-3,5(2H,4H)-dione, 2- β -D-ribofuranosyl-, 2',3'-dibenzoate 5'-(di-Ph phosphate) 2672-71-1, as-Triazine-3,5(2H,4H)-dione, 4-(diphenylmethyl)-6-methyl-2- β -D-ribofuranosyl-, 2',3'-dibenzoate 5'-(di-Ph phosphate) 2672-72-2, as-Triazine-3,5(2H,4H)-dione, 6-methyl-2- β -D-ribofuranosyl-, 2',3'-dibenzoate 5'-(di-Ph phosphate) 2672-73-3, as-Triazine-3,5(2H,4H)-dione, 6-methyl-2- β -D-ribofuranosyl-, 5'-(diphenyl phosphate) 100733-26-4, as-Triazine-3,5(2H,4H)-dione, 2- β -D-ribofuranosyl-, 5'-(dipentyl phosphate) (preparation of)
 RN 2672-67-5 HCAPLUS
 CN as-Triazine-3,5(2H,4H)-dione, 4-(diphenylmethyl)-2- β -D-ribofuranosyl-, 2',3'-dibenzoate 5'-(diphenyl phosphate) (7CI, 8CI) (CA INDEX NAME)

Absolute stereochemistry.



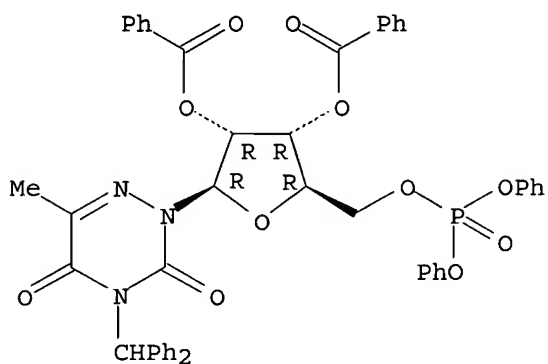
RN 2672-68-6 HCAPLUS
 CN 1,2,4-Triazine-3,5(2H,4H)-dione, 2-[2,3-di-O-benzoyl-5-O-(diphenoxyphosphinyl)-β-D-ribofuranosyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



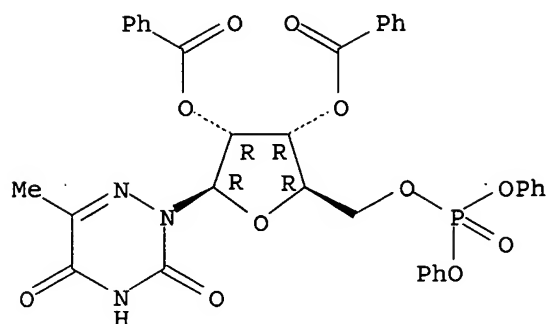
RN 2672-71-1 HCAPLUS
 CN as-Triazine-3,5(2H,4H)-dione, 4-(diphenylmethyl)-6-methyl-2-β-D-ribofuranosyl-, 2',3'-dibenzoate 5'-(diphenyl phosphate) (7CI, 8CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 2672-72-2 HCAPLUS
 CN as-Triazine-3,5(2H,4h)-dione, 6-methyl-2-β-D-ribofuranosyl-, 2',3'-dibenzoate 5'-(diphenyl phosphate) (7CI, 8CI) (CA INDEX NAME)

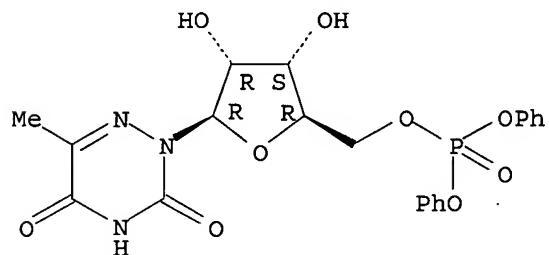
Absolute stereochemistry.



RN 2672-73-3 HCAPLUS

CN as-Triazine-3,5(2H,4H)-dione, 6-methyl-2-β-D-ribofuranosyl-, 5'-(diphenyl phosphate) (7CI, 8CI) (CA INDEX NAME)

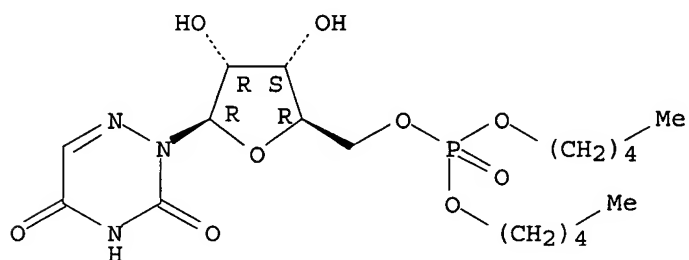
Absolute stereochemistry.



RN 100733-26-4 HCAPLUS

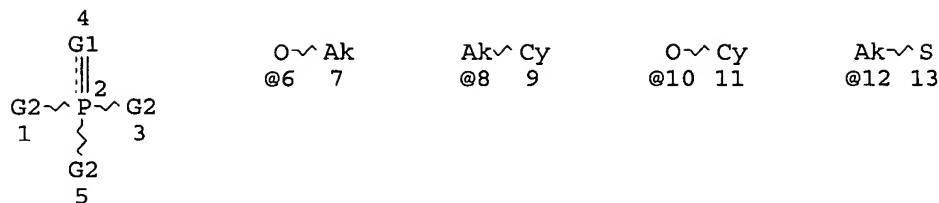
CN as-Triazine-3,5(2H,4H)-dione, 2-β-D-ribofuranosyl-, 5'-(dipentyl phosphate) (7CI) (CA INDEX NAME)

Absolute stereochemistry.



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L1 STR

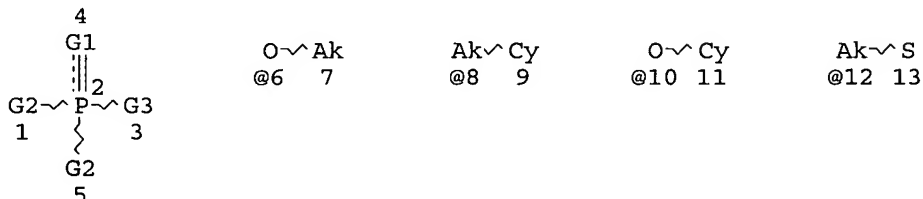


S~Ak
@14 15

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DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE
L2 197145 SEA FILE=REGISTRY SSS FUL L1
L3 STR



S~Ak
@14 15

Cy~Cy
16 17

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DEFAULT ECLEVEL IS LIMITED

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STEREO ATTRIBUTES: NONE
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TRANSITION
L7 180378 SEA FILE=REGISTRY ABB=ON PLU=ON ION OR IONS
L9 284086 SEA FILE=REGISTRY ABB=ON PLU=ON METHANOL
L10 224712 SEA FILE=REGISTRY ABB=ON PLU=ON ETHANOL/BI

L11 28277 SEA FILE=REGISTRY ABB=ON PLU=ON ALCOHOL OR ALCOHOLS
 L12 44 SEA FILE=REGISTRY ABB=ON PLU=ON ALKANOL OR ALKANOLS
 L13 8575 SEA FILE=REGISTRY ABB=ON PLU=ON N-PROPANOL?/CN OR ISO-PROPANO
 L?/CN OR N-BUTANOL?/CN OR 2-BUTANOL?/CN OR METHOXYETHANOL
 L22 5443 SEA FILE=HCAPLUS ABB=ON PLU=ON L5
 L23 3711905 SEA FILE=HCAPLUS ABB=ON PLU=ON L6 OR METAL OR LANTHANIDE
 L24 2157436 SEA FILE=HCAPLUS ABB=ON PLU=ON L7 OR ION OR IONS
 L25 192886 SEA FILE=HCAPLUS ABB=ON PLU=ON (L23 OR TRANSITION) (5A) L24
 L26 46 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 AND L25
 L27 14417 SEA FILE=HCAPLUS ABB=ON PLU=ON (ALCOHOLYSIS/CV OR ALCOHOLYSES
 /CV OR ALKANOLYSIS/CV OR ETHANOLYSIS/CV OR METHANOLYSIS/CV OR
 "ALCOHOLYSIS CATALYSTS"/CV OR "ALCOHOLYSIS KINETICS"/CV OR
 TRANSESTERIFICATION/CV) OR ALCOHOLYSIS
 L28 18 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 AND L22
 L29 143 SEA FILE=REGISTRY ABB=ON PLU=ON PARAOXON OR G(W) AGENT OR VX
 L30 493632 SEA FILE=HCAPLUS ABB=ON PLU=ON L29 OR PARAOXON OR G(W) AGENT
 OR VX
 L31 265 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 AND (L30 OR ORGANOPHOS?
 OR PESTICID? OR INSECTICID?)
 L32 33 SEA FILE=HCAPLUS ABB=ON PLU=ON L31 AND L24
 L33 3410 SEA FILE=HCAPLUS ABB=ON PLU=ON (L22 OR L30) (L) DECOMPO?
 L34 52 SEA FILE=HCAPLUS ABB=ON PLU=ON L25 AND L33
 L35 35 SEA FILE=HCAPLUS ABB=ON PLU=ON L34 NOT THERMAL (2A) DECOMPO?
 L36 132 SEA FILE=HCAPLUS ABB=ON PLU=ON L26 OR L28 OR L32 OR L35
 L37 114 SEA FILE=HCAPLUS ABB=ON PLU=ON L36 AND PD=<MARCH 12, 2003
 L38 40 SEA FILE=HCAPLUS ABB=ON PLU=ON L37 AND (ALCOHOL OR L9 OR L10
 OR L11 OR L12 OR L13 OR METHANOL OR ?ETHANOL OR ALKANOL OR
 PROPANOL OR BUTANOL)
 L50 229 SEA FILE=HCAPLUS ABB=ON PLU=ON L31 AND PD=<MARCH 12, 2003
 L51 93 SEA FILE=HCAPLUS ABB=ON PLU=ON L50 AND (L23 OR L24)
 L52 746 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 (L) (L22 OR L23 OR L24)
 L53 34 SEA FILE=HCAPLUS ABB=ON PLU=ON L51 AND L52
 L54 33 SEA FILE=HCAPLUS ABB=ON PLU=ON L53 NOT L38

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=> d ibib abs hitstr l54 1-33

L54 ANSWER 1 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:82624 HCAPLUS
 DOCUMENT NUMBER: 140:432714
 TITLE: Electric heater and its manufacture
 INVENTOR(S): Leng, Tonggui
 PATENT ASSIGNEE(S): Weifang Runtai Intelligent Electrical Co., Ltd., Peop.
 Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 7 pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1360458	A	20020724	CN 2000-129431	20001220 <--
PRIORITY APPLN. INFO.:			CN 2000-129431	20001220

AB The elec. heater consists of a metal substrate, a nanometer
 metal-base far IR radiant thin film, a powdered quartz glass layer,

and a nanometer SnO₂(Sb) composite conductive layer. The nanometer far IR radiant layer contains Al 0.55-1.6, Mg 0.4-1.2, Ca 0.45-1.4, Cr 0.26-0.4, Ni 0.32-0.8, Fe 0.24-0.6, Zr 0.38-1, Ti 0.15-0.6, Na 0.13-0.3, Sn 0.07-0.3, Pb 0.15-0.8, Si 10-25, and SnO₂ 66-87%, has a particle diameter 0.1 μm and the film thickness 0.7-0.9 μm. The powdered quartz glass layer has a thickness 0.08-0.11 mm, and the nanometer composite SnO₂(Sb) conductive layer has a thickness 0.6-0.8 μm. The elec. heating body is manufactured by: (1) hydrolyzing, alcoholizing, or dissolving Al₂O₃, MgO, CaCO₃, CrO₃, Sb₂O₃, FeCl₃, SnCl₄, TiO₂, ZrO₂, NaCl, thermal spraying the obtained solution, mixing the spray dried products for a target composition, sintering at ≤2380°, pulverizing, re-sintering, pulverizing to a particle diameter 0.1 μm, and vapor depositing the sintered powder in a resistance furnace to form a far IR radiant film on a substrate, (2) spray coating a quartz glass powder (particle diameter 0.2 μm) on the far IR radiant layer and sintering at 500-800°, and (3) dipping the coated substrate in a sol of polyacrylamide containing SnO₂(Sb), and drying at 100-800° to form a conductive composite film. The SnO₂(Sb) is prepared by: (1) hydrolyzing SnCl₄, precipitating at pH 7, heating in an

oxidizing

atmospheric at 140° to obtain crystalline SnO₂, (2) alcoholizing SbCl₃ and oxidizing to obtain SbO, (3) mixing the obtained SnO₂ and the SbO solution, thermal spraying onto a ceramic body (heated at 800°), cooling, and hydrolyzing.

IT 1309-48-4, Magnesia, processes 1309-64-4, Antimony oxide, processes 1344-28-1, Alumina, processes 7631-86-9, Silica, processes 13463-67-7, Titania, processes
 RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)

(manufacture elec. heater nanometer metal-base far IR radiant thin film containing)

RN 1309-48-4 HCAPLUS

CN Magnesium oxide (MgO) (9CI) (CA INDEX NAME)

Mg=O

RN 1309-64-4 HCAPLUS

CN Antimony oxide (Sb₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 1344-28-1 HCAPLUS

CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

RN 13463-67-7 HCAPLUS

CN Titanium oxide (TiO₂) (8CI, 9CI) (CA INDEX NAME)

O=Ti=O

L54 ANSWER 2 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:70060 HCAPLUS
 DOCUMENT NUMBER: 140:93685
 TITLE: Preparation of carbamic acid esters
 INVENTOR(S): Liu, Yifeng; Zhang, Juan
 PATENT ASSIGNEE(S): Northwest University, Peop. Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 7 pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1365969	A	20020828	CN 2001-106723	20010116 <--
PRIORITY APPLN. INFO.:			CN 2001-106723	20010116
OTHER SOURCE(S): CASREACT 140:93685; MARPAT 140:93685				

AB Title compds. are prepared by **alcoholysis** of urea with alcs. in the presence of **metal** oxide (such as TiO₂, ZnO, PbO₂, CuO, Cu₂O, etc) nanoparticle and R₃N (R = C₁-18 alkyl, aryl, or hydroxylalkyl) in polar solvents. The carbamic acid C₆-30 alkyl or multi-amino- and multi-hydroxy-C₆-30 alkyl esters are synthesized by transesterification of carbamic acid C₁-4 alkyl ester with C₆-30 alc. in the presence of Ti(OR')₄ (R' = C₁-6 alkyl). Thus, refluxing urea with BuOH in the presence of TiO₂ nanoparticle and triethanolamine for 8 h gave 94.7% Bu carbamate. Reaction of Bu carbamate with benzyl alc. in the presence of Ti(OBu)₄ at 170° for 2.5 h gave 91.4% benzyl carbamate.

IT 1309-37-1, Ferric oxide, uses 1309-48-4, Magnesium oxide, uses 13463-67-7, Titania, uses
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of carbamic acid ester)

RN 1309-37-1 HCAPLUS
 CN Iron oxide (Fe₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 1309-48-4 HCAPLUS
 CN Magnesium oxide (MgO) (9CI) (CA INDEX NAME)

Mg=O

RN 13463-67-7 HCAPLUS
 CN Titanium oxide (TiO₂) (8CI, 9CI) (CA INDEX NAME)

O=Ti=O

L54 ANSWER 3 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003:864144 HCAPLUS
 DOCUMENT NUMBER: 140:1866
 TITLE: Flazasulfuron: **alcoholysis**, chemical hydrolysis, and degradation on various minerals
 AUTHOR(S): Bertrand, Cedric; Witczak-Legrand, Anne; Sabadie, Jean; Cooper, Jean-Francois
 CORPORATE SOURCE: Laboratoire de Chimie des Biomolecules et de

l'Environnement, Centre de Phytopharmacie, Universite de Perpignan, Perpignan, 66860, Fr.

SOURCE: Journal of Agricultural and Food Chemistry (2003), 51(26), 7717-7721
CODEN: JAFCAU; ISSN: 0021-8561

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 140:1866

AB The herbicide flazasulfuron undergoes rapid **alcoholysis**. High yields of the corresponding carbamate and aminopyrimidine are obtained after **alcoholysis** (methanol or ethanol) at 30 °C, in the course of which the concomitant rearrangement reaction remains minor. Hydrolysis (pH ranging from 5 to 11) of flazasulfuron at 30 °C principally involves the rearrangement into urea after elimination of SO₂ and can lead, in a small proportion, to both aminopyrimidine and pyridinesulfonamide. First-order kinetics correctly describes the rates of **alcoholysis** and hydrolysis. The sulfonylurea-bridge contraction and final transformation into the correspondent amine were evaluated with a first-order kinetics hypothesis. Transformations in amine and urea in aqueous medium are pH dependent. The chemical degradation of flazasulfuron on various dry minerals (calcium bentonite, kaolinite, silica, montmorillonite, and alumina) was investigated at 30 °C. The rearrangement reaction is the only one observed in the presence of kaolinite and alumina. However, hydrolysis and rearrangement have the same reaction rate in the presence of silica. The hydrolysis paths of flazasulfuron are comparable to the ones described for rimsulfuron.

IT 1318-93-0, Montmorillonite, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses
RL: CAT (Catalyst use); USES (Uses)
(**alcoholysis**, hydrolysis, and degradation on minerals of flazasulfuron)

RN 1318-93-0 HCAPLUS

CN Montmorillonite ((Al_{1.33}-1.67Mg_{0.33}-0.67)(Ca₀-1Na₀-1)0.33Si₄(OH)₂O₁₀.xH₂O) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

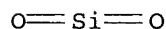
RN 1344-28-1 HCAPLUS

CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 4 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:748503 HCAPLUS

DOCUMENT NUMBER: 140:375526

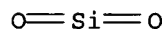
TITLE: Catalytic action of **metal** complexes with polymers in synthesis of dimethyl carbonate

AUTHOR(S): Nie, Qian; Wu, Yan-hua; Wu, Chun

CORPORATE SOURCE: Chemistry Center, Harbin University of Commerce, Harbin, 150076, Peop. Rep. China

SOURCE: Huaxue Yu Nianhe (2003), (4), 172-173, 181

CODEN: HYZHEN; ISSN: 1001-0017
 PUBLISHER: Huaxue Yu Nianhe Bianji Weiyuanhui
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 AB Di-Me carbonate was synthesized with carbon dioxide and methanol by the catalysis of silica-supported **metal** complexes with polymers in the presence of epichlorohydrin. Acrylamide-acrylonitrile-divinylbenzene copolymer complexes with Zn showed the highest catalytic activity among 5 **metal** complexes. When a Zn complex was used, a reaction condition contained reaction temperature 130°, amount of the catalyst 2% (vs. reaction mixts.), and methanol-epichlorohydrin molar ratio 4:1.
 IT 7631-86-9, Silica, uses
 RL: CAT (Catalyst use); USES (Uses)
 (silica-supported **metal** complexes with polymers as catalysts for synthesis of di-Me carbonate)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L54 ANSWER 5 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003:98609 HCAPLUS
 DOCUMENT NUMBER: 138:321674
 TITLE: Preparation of supported yttrium alkoxides as catalysts for the polymerization of lactones and oxirane
 AUTHOR(S): Martin, E.; Dubois, Ph.; Jerome, R.
 CORPORATE SOURCE: Center for Education and Research on Macromolecules, University of Liege, Liege, 4000, Belg.
 SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (2003), 41(4), 569-578
 CODEN: JPACEC; ISSN: 0887-624X
 PUBLISHER: John Wiley & Sons, Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Two methods have been reported that allow yttrium alkoxides to be supported on porous silica and to be used afterward as heterogeneous catalysts in the ring-opening polymerization of oxirane and ϵ -caprolactone. In the two methods, [tris(hexamethyldisilyl)-amide yttrium {Y[N(SiMe₃)₂]₃} is the **metal** alkoxide precursor. It is directly reacted with the silanol groups of the support, in the first method, and this is followed by **alcoholysis** of the unreacted amide groups. The flexibility of this method seems to be limited because the grafting d. and the structure of the grafted Y alkoxide (less than one alkoxide by **metal**) are independent of the exptl. conditions. In the second method, Y[N(SiMe₃)₂]₃ is first reacted with 1 or 2 equiv of alc. with the formation of the mixed Y alkoxide/amide. The amide functions are used to attach Y to the support. This method is free from side reactions, quite reproducible, and well suited to support one type of active species (monoalkoxide or dialkoxide). Preliminary expts. with ϵ -caprolactone polymerization have confirmed the activity of the supported Y alkoxide, whatever preparation method is used.
 IT 7631-86-9DP, Silica, reaction products with tris(hexamethyldisilyl)amide yttrium
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
 USES (Uses)
 (preparation of supported yttrium alkoxides as catalysts for the polymerization of

lactones and oxirane)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 6 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:36772 HCAPLUS
 DOCUMENT NUMBER: 138:74426
 TITLE: Manufacture of sheet-like interior material with
 lasting antibacterial and deodorant effect
 INVENTOR(S): Sakota, Toshiro
 PATENT ASSIGNEE(S): Sanko Kogyo Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003013372	A2	20030115	JP 2001-195277	20010627 <--
PRIORITY APPLN. INFO.:			JP 2001-195277	20010627

AB The sheet-like interior material is manufactured by dissolving soluble organic
 compds. in **metal** alkoxides, hydrolytic and/or
alcoholysis polymerization of the **metal** alkoxides, mixing the
 resulting ceramic-organic composites (solid solution) into a top coating agent,
 and bonding the top coating agent to a base sheet. Mixing green tea extract
 200, H₂O 50, and (EtO)₄Si 100 parts, adding 40 parts EtOH and 2.5 part
 NH₄OH, leaving at 35° for 7-8 h, heating to 80° over 48 h,
 120 h at 80°, and heating to 210° over 96 h, and leaving at
 210° for 24 h gave a siloxane dried gel. The gel was mixed (25
 parts) with 100 parts acrylic emulsion and coated on a PVC base to give a
 wallpaper with good water resistance.

IT **7631-86-9P**, Silica, uses
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (top coat; manufacture of sheet-like interior material with lasting
 antibacterial and deodorant effect)

RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

L54 ANSWER 7 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:101295 HCAPLUS
 DOCUMENT NUMBER: 136:120191
 TITLE: Method of synthesis of alkylene glycol monoalkyl
 ethers by catalytic **alcoholysis** of ethylene
 and propylene oxides
 INVENTOR(S): Petukhov, A. A.; Shvets, V. F.; Suchkov, Yu. P.

PATENT ASSIGNEE(S): Individual'noe Chastnoe Predpriyatie "Vega-Khim",
Russia
SOURCE: Russ., No pp. given
CODEN: RUXXE7
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RU 2149865	C1	20000527	RU 1999-100939	19990112 <--
PRIORITY APPLN. INFO.:			RU 1999-100939	19990112

AB Invention relates to the method of synthesis of monoalkyl ethers of mono- and diethylene glycols (Et, Bu cellosolves and carbitols) and propylene glycol monomethyl ether that are used in production of solvents, plasticizers, antifreeze components, deicers, hydraulic and hydraulic break liqs. and for production of materials used in industry of plastics, **pesticides**, lacquers, and dyes. The process is carried out by reacting ethylene and propylene oxides with alcs. under increased pressure and temperature in the presence of organic compds. of **metals** of fifth and/or sixth groups of periodic system, preferably organic compds. of vanadium, molybdenum, and tungsten, in particular alkyl esters of inorg. acids of those elements. Method provides high selectivity of the process at decreased alc. excess (by 4-8-fold) with respect to alkylene oxide, producing concentrated solns. of the end compds. (above 20 weight-%).

IT **7440-33-7D**, Tungsten, organic compds.
RL: CAT (Catalyst use); USES (Uses)
(method of synthesis of alkylene glycol monoalkyl ethers by catalytic **alcoholysis** of ethylene and propylene oxides)

RN 7440-33-7 HCAPLUS
CN Tungsten (8CI, 9CI) (CA INDEX NAME)

W

L54 ANSWER 8 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:441100 HCAPLUS
DOCUMENT NUMBER: 135:42772
TITLE: Immobilized lipase and reaction of organic compounds
using the immobilized lipase
INVENTOR(S): Kurokawa, Yoichi; Fujimoto, Masaki
PATENT ASSIGNEE(S): Nippon Kayaku Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001161360	A2	20010619	JP 1999-350980	19991210 <--
PRIORITY APPLN. INFO.:			JP 1999-350980	19991210

AB Lipase immobilized on gel fibers comprising cellulose derivs. and multivalent **metal** alkoxides is useful for manufacture of organic compds. by hydrolysis, esterification, or transesterification. Lipase was dispersed in an acetone solution of cellulose acetate and the dispersion was

spun into a solution of $\text{Ti}(\text{CHMe}_2)_4$ to give lipase immobilized on cellulose acetate-Ti gel fibers. A tert-Bu Me ether solution of (+)-1-phenylethanol and vinyl acetate was treated with the immobilized lipase at 30° for 10 h to give optically-active 1-acetoxyethylbenzene with 83% e.e.

IT 7440-32-6DP, Titanium, alkoxides, reaction products with cellulose derivs., preparation 9004-70-0DP, Nitrocellulose, reaction products with alkoxides

RL: CAT (Catalyst use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(lipase immobilized on gel fibers prepared from cellulose derivs. and multivalent **metal** alkoxides for enantioselective reactions)

RN 7440-32-6 HCAPLUS

CN Titanium (8CI, 9CI) (CA INDEX NAME)

Ti

RN 9004-70-0 HCAPLUS

CN Cellulose, nitrate (9CI) (CA INDEX NAME)

CM 1

CRN 9004-34-6

CMF Unspecified

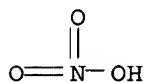
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7697-37-2

CMF H N O3



L54 ANSWER 9 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:379342 HCAPLUS

DOCUMENT NUMBER: 135:118758

TITLE: Conformational changes induced by immobilization of a recombinant cutinase on zeolites

AUTHOR(S): Serralha, F. N.; Lopes, J. M.; Ferreira, L. F. Vieira; Lemos, F.; Prazeres, D. M. F.; Aires-Barros, M. R.; Cabral, J. M. S.; Ribeiro, F. Ramoa

CORPORATE SOURCE: Centro de Engenharia Biologica e Quimica, Instituto Superior Tecnico, Lisbon, 1049-001, Port.

SOURCE: Catalysis Letters (2001), 73(1), 63-66

CODEN: CALEER; ISSN: 1011-372X

PUBLISHER: Kluwer Academic/Plenum Publishers

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A recombinant cutinase from *Fusarium solani* pisi was immobilized by adsorption/deposition onto several zeolites. These prepns. were used to catalyze the **alcoholysis** of Bu acetate with hexanol in isooctane. Ground state diffuse reflectance measurements were performed

for the prepns. previously equilibrated with salt solns. at well-defined optimum water activity. The corresponding cutinase fluorescence emission spectra were used to detect different conformational enzyme states, induced by different zeolite properties. Significant conformational changes were observed, with important consequences on the enzymic activities.

IT 1344-28-1, Alumina, uses 7631-86-9, Silica, uses
 RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (conformational changes induced by immobilization of recombinant cutinase on zeolites in relation to **alcoholysis** of bu acetate with hexanol)

RN 1344-28-1 HCAPLUS

CN Aluminum oxide (Al2O3) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 10 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:255874 HCAPLUS

DOCUMENT NUMBER: 133:103761

TITLE: Kinetic resolution of a diltiazem intermediate by lipase-catalyzed enantioselective **alcoholysis**

AUTHOR(S): Shapira-Levinger, M.; Fishman, A.

CORPORATE SOURCE: IMI (TAMI) Institute for Research and Development, Haifa Bay, Israel

SOURCE: Journal of Molecular Catalysis B: Enzymatic (2000), 9(4-6), 251-257

CODEN: JMCEF8; ISSN: 1381-1177

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel enzymic resolution of an important alc. intermediate in the Diltiazem process was developed. The enzymic reaction involved **alcoholysis** of the alc. acetate with butanol, thus obtaining the (R,R)-alc. and the remaining (S,S) 95% enantiomeric excess. This resolution may serve as the key step in a possible recycling procedure for the waste streams of the Diltiazem process, which will allow a significant increase in the overall process yield.

IT 1344-28-1, Alumina, uses 7631-86-9, Silica, uses

RL: NUU (Other use, unclassified); USES (Uses)
 (kinetic resolution of a diltiazem intermediate by lipase-catalyzed enantioselective **alcoholysis**)

RN 1344-28-1 HCAPLUS

CN Aluminum oxide (Al2O3) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 11 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:84010 HCAPLUS

DOCUMENT NUMBER: 132:237402

TITLE: Silica-Grafted Borato Cocatalysts for Olefin Polymerization Modeled by Silsesquioxane-Borato Complexes

AUTHOR(S): Duchateau, Robbert; Van Santen, Rutger A.; Yap, G. P. A.

CORPORATE SOURCE: Dutch Polymer Institute/Schuit Institute of Catalysis, Eindhoven University of Technology, Eindhoven, 5600 MB, Neth.

SOURCE: Organometallics (2000), 19(5), 809-816

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The syntheses and reactivity studies of silsesquioxane-borato complexes are described. Treatment of $B(C_6F_5)_3$ with $(c-C_5H_9)_7Si_8O_{12}(OH)$ and $(c-C_5H_9)_7Si_7O_9(OH)_3$ in the presence of a Bronsted base yields the silsesquioxane-borates $X+\{[(c-C_5H_9)_7Si_8O_{13}]B(C_6F_5)_3\}^-$ (1a, $X^+ = PhN(H)Me_2^+$; 1b, $X^+ = Et_3NH^+$) and $X+\{[(c-C_5H_9)_7Si_7(OH)_2O_{10}]B(C_6F_5)_3\}^-$ (1b, $X^+ = PhN(H)Me_2^+$; 2b, $X^+ = Et_3NH^+$), resp. When the more nucleophilic base pyridine is used, $(C_6F_5)_3B \cdot NC_5H_5$ (3) is formed instead, demonstrating the competition between $B(C_6F_5)_3$ and H^+ to react with the amine. The dimethylaniline in 1a and 2a is readily exchanged by NEt_3 to form 1b and 2b. With the nucleophilic Lewis base NC_5H_5 , the B-O bond in 1a and 2a is split, yielding $(C_6F_5)_3B \cdot NC_5H_5$ (3) and the free silsesquioxanes. Complexes 1 and 2 rapidly undergo hydrolysis under formation of the hydroxyl complexes $X+\{(C_6F_5)_3BOH\}^-$ (4a, $X^+ = PhN(H)Me_2^+$; 4b, $X^+ = Et_3NH^+$). Likewise, **alcoholysis** of 1a and 2a with *i*-PrOH yields the alkoxide $\{PhN(H)Me_2\}^+ \{i-PrOB(C_6F_5)_3\}^-$ (5). The B-O bond is only moderately stable toward early-transition-metal alkyls. Nevertheless, $Cp_2Zr(CH_2Ph)_2 + 1a$ and $Zr(CH_2Ph)_4 + 2a$ form single-site ethylene polymerization catalysts. Detailed reactivity studies demonstrated that both B-O and B-C bond splitting plays a crucial role, as not 1a and 2a, but their decomposition product $B(C_6F_5)_3$ is the actual cocatalyst. The solid-state structures of 1a and 4b were determined by single-crystal X-ray anal.

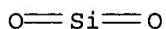
IT 7631-86-9, Silica, uses

RL: CAT (Catalyst use); USES (Uses)

(silica-grafted borato cocatalysts for olefin polymerization modeled by silsesquioxane-borato complexes)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 79 THERE ARE 79 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 12 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:495260 HCAPLUS

DOCUMENT NUMBER: 131:131509

TITLE: Process for separation of **metal-organophosphorus** ligand complex catalyst from reaction fluids

INVENTOR(S): Argyropoulos, John N.; Bryant, David Robert; Morrison, Donald Lee; Stockman, Kenneth Elwood

PATENT ASSIGNEE(S): Union Carbide Chemicals & Plastics Technology Corporation, USA

SOURCE: PCT Int. Appl., 73 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9938832	A1	19990805	WO 1999-US2090	19990201 <--
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 5952530	A	19990914	US 1998-17456	19980202 <--
ZA 9900777	A	19990802	ZA 1999-777	19990201 <--
CA 2319801	AA	19990805	CA 1999-2319801	19990201 <--
AU 9923517	A1	19990816	AU 1999-23517	19990201 <--
EP 1053219	A1	20001122	EP 1999-903511	19990201 <--
EP 1053219	B1	20031210		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, MC, PT				
BR 9908212	A	20011030	BR 1999-8212	19990201 <--
JP 2002501938	T2	20020122	JP 2000-530071	19990201 <--
RU 2207332	C2	20030627	RU 2000-122844	19990201
AT 256097	E	20031215	AT 1999-903511	19990201
ES 2209390	T3	20040616	ES 1999-903511	19990201
TW 471979	B	20020111	TW 1999-88101491	19990417 <--
PRIORITY APPLN. INFO.:			US 1998-17456	A 19980202
			WO 1999-US2090	W 19990201

OTHER SOURCE(S): MARPAT 131:131509

AB This invention relates to a process for separating one or more products from a reaction product fluid comprising a **metal-organophosphorus** ligand complex catalyst, optionally free **organophosphorus** ligand, a nonpolar solvent and said one or more products, wherein said process comprises (1) mixing said reaction product fluid with a polar solvent to obtain by phase separation a nonpolar phase comprising said **metal-organophosphorus** ligand complex catalyst, optionally free **organophosphorus** ligand and said nonpolar solvent and a polar phase comprising said one or more products and polar solvent, and (2) recovering said polar phase from said nonpolar phase; wherein said **organophosphorus** ligand has a partition coefficient between the nonpolar solvent and the polar solvent of greater than about 5, and said one or more products have a partition coefficient between the polar solvent and the nonpolar solvent of greater than about 0.5.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 13 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:487142 HCAPLUS

DOCUMENT NUMBER: 131:131504
 TITLE: Separation processes for **metal-organophosphorus** ligand complex catalyst-based reactions
 INVENTOR(S): Argyropoulos, John N.; Bryant, David Robert; Morrison, Donald Lee; Stockman, Kenneth Elwood; Abatjoglou, Anthony George
 PATENT ASSIGNEE(S): Union Carbide Chemicals & Plastics Technology Corporation, USA
 SOURCE: U.S., 25 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5932772	A	19990803	US 1998-17457	19980202 <--
ZA 9900775	A	19990802	ZA 1999-775	19990201 <--
CA 2319780	AA	19990805	CA 1999-2319780	19990201 <--
WO 9938831	A1	19990805	WO 1999-US1998	19990201 <--
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9925692	A1	19990816	AU 1999-25692	19990201 <--
EP 1053220	A1	20001122	EP 1999-905553	19990201 <--
EP 1053220	B1	20050223		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT				
BR 9908360	A	20020115	BR 1999-8360	19990201 <--
JP 2002501937	T2	20020122	JP 2000-530070	19990201 <--
AT 289577	E	20050315	AT 1999-905553	19990201
TW 455501	B	20010921	TW 1999-88101492	19990429 <--
PRIORITY APPLN. INFO.:			US 1998-17457	A 19980202
			WO 1999-US1998	W 19990201

OTHER SOURCE(S): MARPAT 131:131504

AB This invention relates to a process for separating one or more products from a reaction product fluid comprising a **metal-organophosphorus** ligand complex catalyst, optionally free **organophosphorus** ligand, a polar solvent and the products, wherein the process comprises (1) mixing the reaction product fluid with a nonpolar solvent to obtain by phase separation a polar phase comprising the **metal-organophosphorus** ligand complex catalyst, optionally free **organophosphorus** ligand and the polar solvent and a nonpolar phase comprising the one or more products and nonpolar solvent, and (2) recovering the nonpolar phase from the polar phase; wherein the **organophosphorus** ligand has a partition coefficient between the polar solvent and the nonpolar solvent of greater than about 10, and the one or more products have a partition coefficient between the nonpolar solvent and the polar solvent of greater than about 0.5.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 14 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1999:417410 HCAPLUS

DOCUMENT NUMBER: 131:60316
 TITLE: Removal of phosphorus acidic compounds from
metal-ligand complex-catalyzed processes for
 reduced catalyst hydrolytic degradation and
 deactivation
 INVENTOR(S): Bryant, David Robert; Nicholson, James Clair; Briggs,
 John Robert; Packett, Diane Lee; Maher, John Michael
 PATENT ASSIGNEE(S): Union Carbide Chemicals & Plastics Technology
 Corporation, USA
 SOURCE: U.S., 41 pp., Cont.-in-part of U.S. 5,789,625.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 25
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5917095	A	19990629	US 1997-814854	19970311 <--
US 5763671	A	19980609	US 1996-757742	19961126 <--
US 5789625	A	19980804	US 1996-756786	19961126 <--
PRIORITY APPLN. INFO.:			US 1996-756786	A2 19961126
			US 1996-757742	A2 19961126

OTHER SOURCE(S): MARPAT 131:60316

AB One or more phosphorus acidic compds. are separated from a reaction product fluid containing the phosphorus acidic compds., a Group 8, 9, or 10 **metal-organophosphorus** ligand complex catalyst, and, optionally, free **organophosphorus** ligand, such as from a hydroformylation process, by (a) treating the reaction product fluid with water sufficient to remove at least some of the phosphorus acidic compds. and (b) treating the water containing the phosphorus acidic compds. removed from the reaction product fluid with an acid removal substance sufficient to remove at least some of the phosphorus acidic compds. from the water. The acid removal substances are oxides, hydroxides, carbonates, bicarbonates, or carboxylates of Group 2, 11, and 12 **metals**.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 15 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:227970 HCAPLUS
 DOCUMENT NUMBER: 130:283678
 TITLE: **Metal-organophosphorus** ligand
 complex catalyzed processes
 INVENTOR(S): Bryant, David Robert; Nicholson, James Clair; Billig,
 Ernst; Briggs, John Robert; Packett, Diane Lee; Maher,
 John Michael
 PATENT ASSIGNEE(S): Union Carbide Chemicals & Plastics Technology
 Corporation, USA
 SOURCE: U.S., 39 pp., Cont.-in-part of U.S. 5,763,680.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 25
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5892119	A	19990406	US 1997-815476	19970311 <--
US 5763680	A	19980609	US 1996-756788	19961126 <--
PRIORITY APPLN. INFO.:			US 1996-756788	A2 19961126

AB This invention relates to a process for separating one or more phosphorus acidic compds. from a reaction product fluid containing one or more phosphorus acidic compds., a **metal-organophosphorus** ligand complex catalyst, and optionally free **organophosphorus** ligand. The process comprises (a) treating the reaction product fluid with water sufficient to remove at least some amount of the one or more phosphorus acidic compds. from the reaction product fluid and (b) treating the water which contains phosphorus acidic compds. removed from the reaction product fluid with an ion exchange resin sufficient to remove at least some amount of the one or more phosphorus acidic compds. from the water. **Metal-organophosphorus** ligand complex catalyzed processes may include hydroformylation, hydroacylation, hydrocyanation, hydroamidation, hydroesterification, aminolysis, **alcoholysis**, carbonylation, isomerization, and transfer hydrogenation.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 16 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:208581 HCAPLUS

DOCUMENT NUMBER: 130:254055

TITLE: **Metal-organophosphorus** ligand complex-catalyzed processes, and ligand stabilization therein.

INVENTOR(S): Bryant, David Robert; Nicholson, James Clair; Briggs, John Robert; Packett, Diane Lee; Maher, John Michael

PATENT ASSIGNEE(S): Union Carbide Chemicals and Plastics Technology Corporation, USA

SOURCE: U.S., 29 pp., Cont.-in-part of U.S. Ser. No. 753,505. CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 25

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5886235	A	19990323	US 1997-818780	19970311 <--
US 5741942	A	19980421	US 1996-753505	19961126 <--
WO 9720797	A1	19970612	WO 1996-US19400	19961205 <--
W: AL, AM, AU, BB, BG, BR, CA, CN, CZ, EE, GE, HU, IS, JP, KG, KP, KR, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
ZA 9610309	A	19990226	ZA 1996-10309	19961206 <--
PRIORITY APPLN. INFO.:			WO 1996-US19400	A 19960512
			AR 1996-105531	A 19960612
			US 1996-753505	A2 19961205
			ZA 1996-10309	A 19961206
			VE 1996-2190	A 19961217
			TH 1997-35196	A 19970113
			US 1995-8284P	P 19951206
			US 1995-8286P	P 19951206
			US 1995-8289P	P 19951206
			US 1995-8763P	P 19951206
			US 1996-753503	A 19961126

OTHER SOURCE(S): MARPAT 130:254055

AB Acidic P compds. are separated from a reaction product (e.g., from hydroformylation) containing them, a Group 8-10 **metal-**

organophosphorus ligand complex catalyst, and optionally free **organophosphorus** ligand by treating the reaction product with water sufficient to remove at least some of the acidic P compds., thus reducing the tendency for hydrolytic degradation of the ligand and/or catalyst.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 17 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:534930 HCAPLUS

DOCUMENT NUMBER: 129:166637

TITLE: **Metal**-ligand complex catalyzed processes

INVENTOR(S): Bryant, David Robert; Nicholson, James Clair

PATENT ASSIGNEE(S): Union Carbide Chemicals & Plastics Technology Corporation, USA

SOURCE: U.S., 33 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 25

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5789625	A	19980804	US 1996-756786	19961126 <--
CA 2239570	AA	19970612	CA 1996-2239570	19961205 <--
AU 9712812	A1	19970627	AU 1997-12812	19961205 <--
AU 720052	B2	20000525		
EP 865418	A1	19980923	EP 1996-943615	19961205 <--
EP 865418	B1	20011031		
R: BE, DE, ES, FR, GB, IT, NL, SE, RO				
CN 1203574	A	19981230	CN 1996-198725	19961205 <--
EP 1108707	A1	20010620	EP 2001-104688	19961205 <--
R: BE, DE, ES, FR, GB, IT, NL, SE, RO				
JP 2002504889	T2	20020212	JP 1997-521444	19961205 <--
US 5917095	A	19990629	US 1997-814854	19970311 <--
TW 509694	B	20021111	TW 1997-86117742	19980327 <--
PRIORITY APPLN. INFO.:			US 1995-8284P	P 19951206
			US 1995-8286P	P 19951206
			US 1995-8289P	P 19951206
			US 1995-8763P	P 19951206
			US 1996-756786	A 19961126
			US 1996-757742	A2 19961126
			EP 1996-943615	A3 19961205
			WO 1996-US19411	W 19961205

OTHER SOURCE(S): MARPAT 129:166637

AB This invention relates to a process for separating one or more phosphorus acidic compds. from a reaction product fluid containing said one or more phosphorus acidic compds., a **metal-organophosphite** ligand complex catalyst and optionally free **organophosphite** ligand which process comprises (a) treating said reaction product fluid with water sufficient to remove at least some amount of said one or more phosphorus acidic compds. from said reaction product fluid and (b) treating the water which contains phosphorus acidic compds. removed from said reaction product fluid with an acid removal substance sufficient to remove at least some amount of said one or more phosphorus acidic compds. from said water.

IT 1344-28-1, Alumina, processes

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(**metal**-ligand complex catalyzed processes)

RN 1344-28-1 HCAPLUS
 CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 18 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:397832 HCAPLUS
 DOCUMENT NUMBER: 129:55722
 TITLE: Stabilization of metal-ligand complex
 catalysts used in various processes by removal of
 phosphorus acidic compounds
 INVENTOR(S): Bryant, David Robert; Nicholson, James Clair; Billig,
 Ernst
 PATENT ASSIGNEE(S): Union Carbide Chemicals & Plastics Technology Corp.,
 USA
 SOURCE: U.S., 33 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 25
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5763680	A	19980609	US 1996-756788	19961126 <--
CA 2239536	AA	19970612	CA 1996-2239536	19961205 <--
CN 1203577	A	19981230	CN 1996-198748	19961205 <--
CN 1077874	B	20020116		
JP 2002515859	T2	20020528	JP 1997-521428	19961205 <--
US 5892119	A	19990406	US 1997-815476	19970311 <--
PRIORITY APPLN. INFO.:			US 1995-8284P	P 19951206
			US 1995-8286P	P 19951206
			US 1995-8289P	P 19951206
			US 1995-8763P	P 19951206
			US 1996-756788	A 19961126
			WO 1996-US19380	W 19961205

OTHER SOURCE(S): MARPAT 129:55722

AB Phosphorus acidic compd(s). are separated from a reaction product fluid
 containing

a metal-organophosphite ligand complex catalyst and
 optionally free organophosphite ligand by (a) treating the fluid
 with water sufficient to remove at least part of the phosphorus acidic
 compd(s). and (b) treating the water containing the phosphorus acidic
 compd(s). with an ion exchange resin to remove at least part of
 the phosphorus acidic compd(s). from the water.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 19 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:140171 HCAPLUS
 DOCUMENT NUMBER: 126:172084
 TITLE: Manufacturing method of hydroxy group-terminated
 polyethers using composite oxide alcoholysis
 catalysts
 INVENTOR(S): Hayashi, Bunhatsu; Chin, Ikufumi; Ko, Yukimasa; Chin,
 Sekiei
 PATENT ASSIGNEE(S): Ind Tech Res Inst, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09003185	A2	19970107	JP 1995-153677	19950620 <--
PRIORITY APPLN. INFO.:			JP 1995-153677	19950620

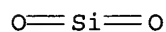
AB The title polymers are prepared by **alcoholysis** of ester-terminated polyoxyalkylenes and alcs. in the presence of composite **metal** oxide catalysts (consisting of alkaline earth **metal** oxides and alumina, silica, zinc oxide and mixts.), and separating the produced OH-terminated polyoxyalkylene from the catalysts. A catalyst was prepared by calcination of a dried mixture of alumina and Ca(NO₃)·4H₂O to give CaO and Al₂O₃. Polytetramethylene glycol acetate was reacted with MeOH using the above catalyst to give polytetramethylene glycol.

IT 1344-28-1, Alumina, uses 7631-86-9, Silica, uses
 RL: CAT (Catalyst use); USES (Uses)
 (manufacturing method of hydroxy group-terminated polyethers using composite oxide **alcoholysis** catalysts)

RN 1344-28-1 HCAPLUS
 CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L54 ANSWER 20 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:41800 HCAPLUS
 DOCUMENT NUMBER: 126:74741
 TITLE: Alkyl dihalogenated phenyl-substituted keto enols useful as **pesticides** and herbicides

INVENTOR(S): Lieb, Folker; Hagemann, Hermann; Widdig, Arno; Ruther, Michael; Fischer, Reiner; Bretschneider, Thomas; Erdelen, Christoph; Wachendorff-Neumann, Ulrike; Dahmen, Peter; Dollinger, Markus; Santel, Hans-Joachim; et al.

PATENT ASSIGNEE(S): Bayer A.-G., Germany; Lieb, Folker; Hagemann, Hermann; Widdig, Arno; Ruther, Michael; Fischer, Reiner; Bretschneider, Thomas; Erdelen, Christoph; Wachendorff-Neumann, Ulrike; et al.

SOURCE: PCT Int. Appl., 231 pp.
 CODEN: PIXXD2

DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9635664	A1	19961114	WO 1996-EP1781	19960429 <--
W: AU, BB, BG, BR, BY, CA, CN, CZ, HU, JP, KR, KZ, LK, MX, NO, NZ, PL, RO, RU, SK, TR, UA, US				

RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,
SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

DE 19545467	A1	19961114	DE 1995-19545467	19951206 <--
CA 2220440	AA	19961114	CA 1996-2220440	19960429 <--
AU 9657626	A1	19961129	AU 1996-57626	19960429 <--
EP 825982	A1	19980304	EP 1996-914146	19960429 <--
EP 825982	B1	20021127		

R: BE, CH, DE, ES, FR, GB, IT, LI, NL

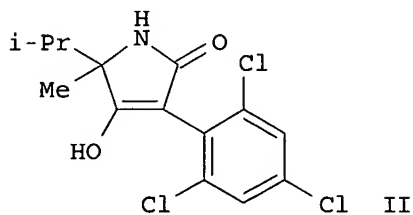
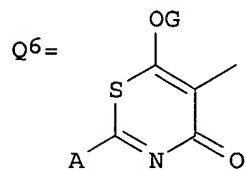
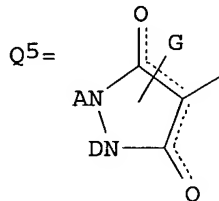
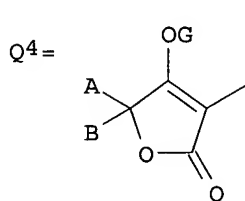
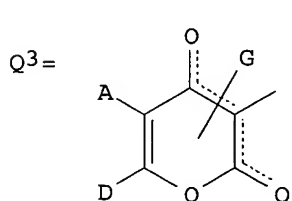
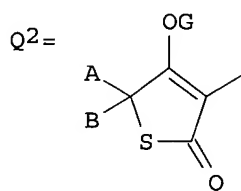
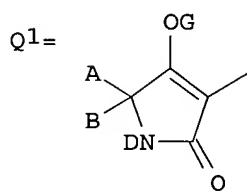
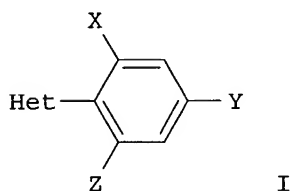
CN 1189153	A	19980729	CN 1996-195072	19960429 <--
CN 1131209	B	20031217		
BR 9608229	A	19981229	BR 1996-8229	19960429 <--
JP 11505220	T2	19990518	JP 1996-533707	19960429 <--
ES 2184858	T3	20030416	ES 1996-914146	19960429
CN 1473814	A	20040211	CN 2003-2003136022	19960429
ZA 9603633	A	19961125	ZA 1996-3633	19960508 <--
US 6316486	B1	20011113	US 1997-945664	19971031 <--
US 6380246	B1	20020430	US 1999-404424	19990923 <--
US 2003199572	A1	20031023	US 2001-17695	20011214
US 6858741	B2	20050222		
US 2005164885	A1	20050728	US 2004-903550	20040730

PRIORITY APPLN. INFO.:

DE 1995-19516258	A	19950509
DE 1995-19545467	A	19951206
WO 1996-EP1781	W	19960429
WO 1996-EP17871	W	19960429
US 1997-945664	B3	19971031
US 1997-945665	A3	19971031
US 1999-404424	A3	19990923
US 2001-17695	A3	20011214

OTHER SOURCE(S) :
GI

MARPAT 126:74741



AB Title compds. I [X = halo, Y, Z = halo or alkyl, provided that 1 of Y and Z always = halo, and the other = alkyl; Het = 1 of the heterocyclic groups Q1-Q6; A = H, (halo)alkyl, alkenyl, alkoxyalkyl, (un)substituted cycloalkyl or heterocyclyl, etc.; B = H, alkyl, alkoxyalkyl; D = H, (un)substituted alk(en/yn)yl, alkoxyalkyl, cycloalkyl, aralkyl, heterocyclyl, aryl, etc.; A and B, or A and D, may form (un)substituted carbo- or heterocyclic rings; G = various acyl, sulfonyl, or phosphoryl substituents, or **metal** or ammonium ions] are prepared
Also disclosed are several processes for preparing the compds., and their use as **pesticides** and herbicides. For example, amidation of 2,4-dichloro-6-methylphenylacetic acid with H₂NC(Me)(i-Pr)CN via the acid chloride using SOCl₂ (81%), followed by **alcoholysis** of the nitrile using H₂SO₄ and MeOH quench (73%), and cyclization of the resultant ester with KOBu-tert in THF (73%), gave title compound II. In a test against Myzus persicae at 0.1%, II gave 100% kill in 6 days. At 250 g/ha preemergence, selected I gave 80-100% kill of 4 weeds with 0-50% damage to Beta vulgaris.

L54 ANSWER 21 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:9944 HCAPLUS

DOCUMENT NUMBER: 126:89902

TITLE: Preparation of hydroxy group end-capped polyether glycols by **alcoholysis** using mixed **metal** oxide catalysts

INVENTOR(S): Lin, Wen-fa; Chen, Yu-wen; Huang, Jih-chen; Chen, Hsueh-ying

PATENT ASSIGNEE(S): Industrial Technology Research Institute, Taiwan

SOURCE: U.S., 4 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5585458	A	19961217	US 1995-495087	19950627 <--
DE 19522922	A1	19970102	DE 1995-19522922	19950623 <--
DE 19522922	C2	20000504		

PRIORITY APPLN. INFO.: US 1995-495087 19950627

AB Hydroxy group end-capped polyether glycols for manufacture of thermoplastic urethanes and copolyester ethers, are prepared by **alcoholysis** of ester end-capped polyalkylene ether in the presence of a highly active, mixed **metal** oxide catalyst, containing an alkaline earth **metal** oxide and oxide of Al, Si or/and Zn, which can be fabricated into shaped articles for a slurry or a fixed bed reactor and is easily separated from product. Thus, polytetramethylene ether acetate (I) 40, methanol 45.4 and a catalyst prepared by drying and calcining Ca(NO₃)₂·4H₂O and γ-Al₂O₃ (CaO 20 and Al₂O₃ 80%) 1 g were reacted at 55° for 150 min in a slurry reactor to give a product with I conversion 84.6%.

IT 1318-23-6, Boehmite 7631-86-9, Silica, uses

RL: CAT (Catalyst use); USES (Uses)

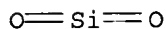
(catalyst; for preparation of hydroxy group end-capped polyether glycols by **alcoholysis**)

RN 1318-23-6 HCAPLUS

CN Boehmite (Al(OH)O) (9CI) (CA INDEX NAME)

HO-Al=O

RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT **1344-28-1**, γ -Aluminum oxide, uses
 RL: CAT (Catalyst use); USES (Uses)
 (γ -phase, catalyst; for preparation of hydroxy group end-capped
 polyether glycols by **alcoholysis**)

RN 1344-28-1 HCAPLUS
 CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L54 ANSWER 22 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:711821 HCAPLUS

DOCUMENT NUMBER: 123:90876

TITLE: Synthesis of monodispersed and spherical SiO₂
 particles by the controlled hydrolysis of
metal alkoxide

AUTHOR(S): Liu, Jian; Cheng, Jijian

CORPORATE SOURCE: Res. Inst. Glasses Ceramics, ECU ST, Shanghai, 200237,
 Peop. Rep. China

SOURCE: Huadong Ligong Daxue Xuebao (1995), 21(2),
 172-6

CODEN: HLI XEV

PUBLISHER: Huadong Ligong Daxue Xuebao Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB By means of SEM, TEM, laser scattered particle analyzer, etc., the
 formation mechanism of ultrafine SiO₂ particles behaved by the controlled
 hydrolysis of **metal** alkoxide was studied. By controlling concentration
 of reactants and catalyst, the concentration of silicic acid monomer was set as
 high as possible, but just below the critical supersatn. Under these
 conditions, monodispersed and spherical ultrafine SiO₂ powder could be
 prepared. The average particle size was from 60 to 500 nm. It was demonstrated
 that the reaction temperature, feeding speed, aging time affected the particle
 size and distribution.

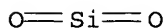
IT **7631-86-9P**, Silica, preparation

RL: PEP (Physical, engineering or chemical process); SPN (Synthetic
 preparation); PREP (Preparation); PROC (Process)

(synthesis of monodispersed spherical SiO₂ particles by controlled
 hydrolysis of **metal** alkoxide)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L54 ANSWER 23 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1992:571996 HCAPLUS

DOCUMENT NUMBER: 117:171996

TITLE: **Metal** oxides modified with chiral amino
 acids as catalysts for stereoselective
alcoholysis and hydrolysis

AUTHOR(S): Moriguchi, Takeshi; Guo, Yu Gang; Yamamoto, Satoshi;
Matsubara, Yoshio; Yoshihara, Masakuni; Maeshima,
Toshihisa

CORPORATE SOURCE: Fac. Sci., Kinki Univ., Higashi-Osaka, 577, Japan

SOURCE: Chemistry Express (1992), 7(8), 625-8

CODEN: CHEXEU; ISSN: 0911-9566

DOCUMENT TYPE: Journal

LANGUAGE: English

AB **Metal** oxides, such as ZnO, γ -Al₂O₃, and SiO₂, modified
with chiral amino acids, were used as catalysts for stereoselective
solvolysis and hydrolysis of racemic activated amino acid esters.

IT 1344-28-1, Alumina, uses

RL: CAT (Catalyst use); USES (Uses)

(catalyst, for hydrolysis and solvolysis of amino acid active ester)

RN 1344-28-1 HCAPLUS

CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 7631-86-9, Silica, uses

RL: CAT (Catalyst use); USES (Uses)

(inactive catalyst, for hydrolysis and solvolysis of amino acid active
ester)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

IT 1344-28-1D, Alumina, reaction products with histidine

7631-86-9D, Silica, reaction products with histidine

RL: RCT (Reactant); RACT (Reactant or reagent)

(surface, catalyst, for stereoselective hydrolysis and solvolysis of
amino acid active esters)

RN 1344-28-1 HCAPLUS

CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

L54 ANSWER 24 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:61537 HCAPLUS

DOCUMENT NUMBER: 114:61537

TITLE: Process for the conversion of olefins to alcohols
and/or ethers using refractory **metal**
oxide-bound zeolite catalysts

INVENTOR(S): Marler, David Owen; Sorensen, Charles Mitchel, Jr.;
Varghese, Philip

PATENT ASSIGNEE(S): Mobil Oil Corp., USA

SOURCE: PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

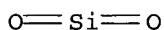
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9008120	A1	19900726	WO 1990-US135	19900110 <--
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				
CA 2025016	AA	19900713	CA 1990-2025016	19900110 <--
AU 9048402	A1	19900813	AU 1990-48402	19900110 <--
EP 403639	A1	19901227	EP 1990-901716	19900110 <--
R: BE, DE, FR, GB, IT, NL				
JP 03503175	T2	19910718	JP 1990-502282	19900110 <--
US 5144084	A	19920901	US 1991-798017	19911120 <--
PRIORITY APPLN. INFO.:			US 1989-296110	A 19890112
			WO 1990-US135	A 19900110
			US 1990-534329	B1 19900604

AB Olefins are converted to alcs. and/or ethers upon reaction with H₂O and/or alcs. in the presence of a catalyst comprising a zeolite and a refractory oxide binder containing a group IVA and/or IVB metal. Thus, propylene was hydrated at 1000 psig, 166°, a weight hourly space velocity of 0.62/h and H₂O/propylene molar ratio of 0.5 over a TiO₂/β-zeolite (35/65 weight%) catalyst (preparation given) with 69.0% propylene conversion, 58.9% selectivity for (Me₂CH)₂O and 37.0% selectivity for Me₂CHOH.

IT 7631-86-9, Silica, uses and miscellaneous 13463-67-7, Titanium oxide (TiO₂), uses and miscellaneous
 RL: USES (Uses)
 (binder, for zeolite catalysts)

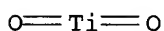
RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 13463-67-7 HCAPLUS

CN Titanium oxide (TiO₂) (8CI, 9CI) (CA INDEX NAME)



L54 ANSWER 25 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1990:236720 HCAPLUS

DOCUMENT NUMBER: 112:236720

TITLE: Preparation of (3,4-dichlorobutyl)trialkoxysilanes and 3-butenyltrialkoxysilanes for use in vulcanized rubbers

INVENTOR(S): Deschler, Ulrich; Kleinschmit, Peter; Wolff, Siegfried; Tan, Ewe Hong

PATENT ASSIGNEE(S): Degussa A.-G., Germany

SOURCE: Eur. Pat. Appl., 12 pp.
 CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 350600      A2      19900117      EP 1989-109122      19890520 <--
EP 350600      A3      19910612
EP 350600      B1      19950712
R:  BE, DE, ES, FR, GB, IT, LU, NL
DE 3823450      A1      19900208      DE 1988-3823450      19880711 <--
EP 627462      A2      19941207      EP 1994-113757      19890520 <--
R:  BE, DE, FR, GB, IT, NL
US 5073644      A       19911217      US 1989-375923      19890706 <--
JP 02069487      A2      19900308      JP 1989-177285      19890711 <--
JP 2776901      B2      19980716
US 5164501      A       19921117      US 1992-836713      19920219 <--
PRIORITY APPLN. INFO.:      DE 1988-3823450      A  19880711
                                EP 1989-109122      A3 19890520
                                US 1989-375923      A3 19890706
                                US 1991-667750      A3 19910311
OTHER SOURCE(S):      CASREACT 112:236720; MARPAT 112:236720
AB  The silanes (RO)3SiCH2CH2CH:CH2 (R = alkyl, aryl, aralkyl), useful as
complexes for SiO2-filled rubbers, are prepared by hydrosilylation of
3,4-dichloro-1-butene (I) with SiHCl3, alcoholysis of the
product, and dechlorination of the resulting (RO)3SiCH2CH2CHClCH2Cl with
Na metal. Stirring 30 mL of a mixture of 4.4 mol SiHCl3 and 4 mol
I with 0.4 g Pt(acac)2 at 95° while adding the remaining mixture over
4 h and stirring 30 min at 92° gave 67.7% ClCH2CHClCH2CH2SiCl3,
stirring of which with MeOH at 20-30° for 4 h and 75° for 2
h gave 89.4% (MeO)3SiCH2CH2CHClCH2Cl (II). Adding 123.6 g II over 1 h to
23 g Na in 150 mL liquid NH3 at -55° gave 85.9% (MeO)3SiCH2CH2CH:CH2,
which was used as a coupler in SiO2-filled EPDM.
IT  7631-86-9, Silica, uses and miscellaneous
RL:  USES (Uses)
      (rubbers filled with, butenyltrialkoxysilane couplers for)
RN  7631-86-9 HCAPLUS
CN  Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

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O=Si=O

L54 ANSWER 26 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1988:549785 HCAPLUS
 DOCUMENT NUMBER: 109:149785
 TITLE: Preparation of alkoxy silanes
 INVENTOR(S): Eckelt, Reinhard; Lischke, Guenter; Fiebig, Wolfgang;
 Dube, Guenter
 PATENT ASSIGNEE(S): Akademie der Wissenschaften der DDR, Ger. Dem. Rep.
 SOURCE: Ger. (East), 4 pp.
 CODEN: GEXXA8
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

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PATENT NO.      KIND      DATE      APPLICATION NO.      DATE
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DD 251354      A1      19871111      DD 1986-292777      19860723 <--
PRIORITY APPLN. INFO.:      DD 1986-292777      19860723
AB  The title compds. are prepared by reaction of Me formate with carboxylate
esters and/or alcs. over Pb-silicas (catalysts) at 180-400°. For
example, 6.8 g HCO2Me and 1 g EtOH were passed over 14 g of a Pb-silica

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catalyst (preparation given) under N to give a condensate containing Si(OMe)₄ 0.46, (MeO)₃SiOEt 0.66, (MeO)₂Si(OEt)₂ 0.18, (MeO)₃SiOSi(OMe)₃ 0.13, MeOH 0.95 g and unreacted starting materials. A procedure for catalyst regeneration is also given.

IT 7439-92-1, Lead, uses and miscellaneous
 RL: USES (Uses)
 (catalyst system containing silica and, in **alcoholysis** of Me formate, alkoxysilanes from)

RN 7439-92-1 HCAPLUS
 CN Lead (8CI, 9CI) (CA INDEX NAME)

Pb

IT 7631-86-9, Silica, uses and miscellaneous
 RL: USES (Uses)
 (catalyst system with lead, in **alcoholysis** of Me formate, alkoxysilanes from)

RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

L54 ANSWER 27 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1987:553940 HCAPLUS
 DOCUMENT NUMBER: 107:153940
 TITLE: Carboxylic acid esters from nitriles and alcohols
 INVENTOR(S): Matsuda, Fujio; Kato, Kozo
 PATENT ASSIGNEE(S): Mitsui Toatsu Chemicals, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62106049	A2	19870516	JP 1985-242679	19851031 <--
PRIORITY APPLN. INFO.:			JP 1985-242679	19851031

AB Title compds. were prepared by gaseous-phase catalytic reaction of nitriles, H₂O, acids, and alcs. Thus, CH₂:CHCN, aqueous HNO₃, and MeOH were fed to a reactor filled with MoO₃-Fe₂O₃ under a stream of N at 350° to give 55.3% Me acrylate at 90.2% conversion, CH₂:CHCO₂H, and CH₂:CHCONH₂.

IT 1309-37-1, uses and miscellaneous 1344-28-1, uses and miscellaneous 7440-02-0, uses and miscellaneous 7440-05-3, uses and miscellaneous 7440-06-4, uses and miscellaneous 7440-22-4, uses and miscellaneous 7440-50-8, uses and miscellaneous
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts containing, for **alcoholysis** of nitriles, carboxylate esters from)

RN 1309-37-1 HCAPLUS
 CN Iron oxide (Fe₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 1344-28-1 HCAPLUS
CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 7440-02-0 HCAPLUS
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-22-4 HCAPLUS
CN Silver (8CI, 9CI) (CA INDEX NAME)

Ag

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

L54 ANSWER 28 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1985:8566 HCAPLUS

DOCUMENT NUMBER: 102:8566

TITLE: Rapeseed oil transesterification by heterogeneous catalysis

AUTHOR(S): Peterson, G. R.; Scarrah, W. P.

CORPORATE SOURCE: Chem. Eng. Dep., Montana State Univ., Bozeman, MT, 59717, USA

SOURCE: JAOCs, J. Am. Oil Chem. Soc. (1984), 61(10), 1593-7
CODEN: JJASDH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB CaO, K₂CO₃, Na₂CO₃, Fe₂O₃, MeONa [124-41-4], NaAlO₂, Zn, Cu, Sn, Pb, ZnO, and Dowex 2X8 [11138-20-8] (anion exchange resin) were tested (mainly at 60-63°) for catalytic activity in the transesterification of low-erucic rapeseed oil with MeOH [67-56-1] to give fatty acid Me esters for use as fuel for direct injection diesel engines. MgO, Al₂O₃, and SiO₂ were used as catalyst supports. The best catalyst was CaO on MgO. The

activities of CaO and ZnO appeared to be enhanced by MgO, indicating that the transesterification reaction mechanism may be bifunctional. Dowex 2X8 at 200°/68 atm generated substantial amts. of both Me fatty esters and straight-chain hydrocarbons even though the reaction did not go to completion. At 91°/9.2 atm, cracking also occurred but at a substantially reduced rate, and no transesterification was observed

IT 1309-37-1, uses and miscellaneous 7439-92-1, uses and miscellaneous 7440-31-5, uses and miscellaneous 7440-50-8, uses and miscellaneous 7440-66-6, uses and miscellaneous
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, for transesterification of rapeseed oil with methanol)
 RN 1309-37-1 HCAPLUS
 CN Iron oxide (Fe2O3) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 7439-92-1 HCAPLUS
 CN Lead (8CI, 9CI) (CA INDEX NAME)

Pb

RN 7440-31-5 HCAPLUS
 CN Tin (8CI, 9CI) (CA INDEX NAME)

Sn

RN 7440-50-8 HCAPLUS
 CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RN 7440-66-6 HCAPLUS
 CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L54 ANSWER 29 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1983:417928 HCAPLUS

DOCUMENT NUMBER: 99:17928

TITLE: Study on analysis of organic halogen compounds by HPLC with a photoconductivity detector

AUTHOR(S): Chen, Yaozu; Duan, Zhixing; Gong, Baosen; Chen, Ning

CORPORATE SOURCE: Lanzhou Univ., Lanzhou, Peop. Rep. China

SOURCE: Lanzhou Daxue Xuebao, Ziran Kexueban (1982), 18(4), 105-11

CODEN: LCTHAF; ISSN: 0455-2059

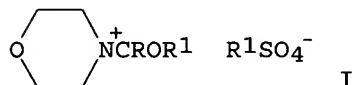
DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB The relationship between mol. structure of organic halogen compds. and their responses in a photo-conductivity detector (PCD) used in reversed phase high performance liquid chromatog. (HPLC) is discussed. The effect of exptl.

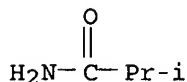
factors on the response of PCD, such as the flowing rate of effluent, hydrolysis or **alcoholysis** of the halogen compds., as well as the concentration of ions present in the mobile phase were also observed. The application of the PCD to the anal. of organic halogen **pesticides** was tested. The limits of detection of three halogen **pesticides** were determined as p,p'-DDT [50-29-3], $1.8 + 10^{-9}$ g, p,p'-DDE [72-55-9], $1.25 + 10^{-8}$ g, and triallate [2303-17-5], $5.75 + 10^{-8}$ g.

L54 ANSWER 30 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1981:120813 HCAPLUS
 DOCUMENT NUMBER: 94:120813
 TITLE: Mechanism of acetalization reactions with carboxamide-dialkyl sulfate adducts; a new method for the synthesis of orthocarboxylic acid esters and the cleavage of carboxamides
 AUTHOR(S): Kantlehner, Willi; Gutbrod, Heinz Dieter
 CORPORATE SOURCE: Inst. Org. Chem., Univ. Stuttgart, Stuttgart, D-7000/80, Fed. Rep. Ger.
 SOURCE: Liebigs Annalen der Chemie (1980), (11), 1677-88
 CODEN: LACHDL; ISSN: 0170-2041
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 94:120813
 GI



AB The efficiency of carboxamide-dialkyl sulfate adducts in acetalization reactions depends upon their alkylating ability. A mechanism of acetalization by orthoformates was proposed, with an oxonium ion as the intermediate. **Alcoholysis** of the adducts I (R = H, Me; R1 = Me, Et) gave orthocarboxylic esters, e.g., HC(OMe)3. Carboxamides and carboxmorpholides reacted with Me2SO4/MeOH to give Me esters, e.g., AcNH2 with Me2SO4/MeOH gave AcOMe.

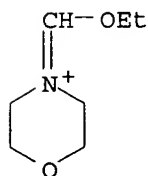
IT 563-83-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (alcoholysis of)
 RN 563-83-7 HCAPLUS
 CN Propanamide, 2-methyl- (9CI) (CA INDEX NAME)



IT 76678-61-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and alcoholysis of)
 RN 76678-61-0 HCAPLUS
 CN Morpholinium, 4-(ethoxymethylene)-, ethyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 76678-60-9
CMF C7 H14 N O2



CM 2

CRN 48028-76-8
CMF C2 H5 O4 S

Et-O-SO₃⁻

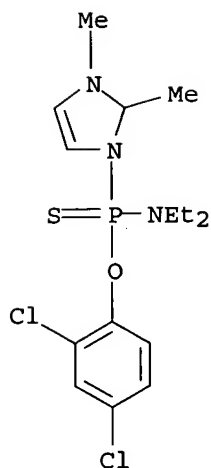
L54 ANSWER 31 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1974:27381 HCAPLUS
DOCUMENT NUMBER: 80:27381
TITLE: Aminophosphine sulfides
INVENTOR(S): Tolkmith, Henry; Seiber, James N.
PATENT ASSIGNEE(S): Dow Chemical Co.
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3773865	A	19731120	US 1969-868594	19691022 <--
PRIORITY APPLN. INFO.:			US 1966-604153	A2 19661223

GI For diagram(s), see printed CA Issue.
AB The imidazolylphosphine sulfides I (R = 2,4-Cl₂C₆H₃O, Ph, PhO, 4-O₂NC₆H₄O, 4-MeSC₆H₄O) as the optically-active salts were cleaved by alkoxide to Et₃NP(S)R(OR₁) (II; R₁ = Et, Me), useful as **pesticides**. Thus, I (R = 2,4-Cl₂C₆H₃O) 3-methyl-camphorsulfonate was treated with NaOMe-MeOH to give 42.7% II (R = 2,4-Cl₂C₆H₃O, R₁ = Me).
IT **50983-12-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(**alcoholysis** of)
RN 50983-12-5 HCAPLUS
CN 1H-Imidazolium, 1-[(2,4-dichlorophenoxy) (diethylamino)phosphinothioyl]-2,3-dimethyl-, salt with (1S)-7,7-dimethyl-2-oxobicyclo[2.2.1]heptane-1-methanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 50983-11-4
CMF C15 H21 Cl2 N3 O P S



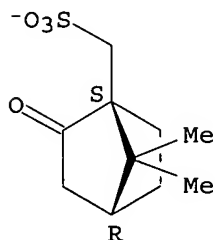
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 46362-90-7

CMF C10 H15 O4 S

Absolute stereochemistry.



L54 ANSWER 32 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1958:18618 HCAPLUS

DOCUMENT NUMBER: 52:18618

ORIGINAL REFERENCE NO.: 52:3325b-f

TITLE: Esters and ester salts of olefin-phosphorus trisulfide-oxygen condensation products

INVENTOR(S): Loughran, Gerard A.; Hook, Edwin O.

PATENT ASSIGNEE(S): American Cyanamid Co.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2809188		19571008	US	<--

AB P4S3 reacts with O to give a compound of the formula P4S3O4 (I). I reacts with 3 moles of an olefin (II) to give condensation products having the empirical formula (CnH2n)3P4S3O4 (III), which are linear polymers. The

same products result from reaction of I and II or of I, P4S3, and O in 1 step. **Metal** salts of III are insol. in oil. P4S3 and mixts. of II with higher alcs., e.g., decanol or octadecanol, or unsatd. esters, e.g., Bu crotonate, react preferentially with P4S3, leaving II unchanged. However, **alcoholysis** of III with monohydroxy organic compds., e.g., aliphatic or cycloaliphatic alcs. or phenols, gives esters containing, in addition to the combined hydrocarbon, 3 moles of combined alc. or phenol. These new esters (IV) are soluble in hydrocarbon lubricating oils and other organic solvents. In a concentration of 0.1-3% in lubricating oils they are corrosion inhibitors. The esters of alcs. of 1-4 C atoms and their alkali **metal** salts have good **insecticidal** properties. Some of the esters, e.g., those of iso-PrOH and iso-BuOH and their alkali **metal** salts, are good flotation reagents. Although IV are polymeric and probably contain both phosphonic and phosphinic acid groups, their composition is represented by the empirical formula $(C_nH_{2n})_3P_4S_3O_4(OX)_3$, in which n is preferably >7 and X is a hydrocarbon residue corresponding to the alc. used. IV most suitable for lubricating-oil anti-oxidants and detergents are prepared from alc. and alkylphenols containing 10-18 or more C atoms. IV reacts as a trivalent radical with basic **metal** compds. to form salts which are soluble in organic solvents. Compds. of good oil solubility have been prepared from olefins of mol. weight as high as 780.

When

II contains 2-7 C atoms, the reaction must be carried out at superatm. pressure and the product usually has an undesirably high degree of polymerization. Preparation of III usually takes place at 120-50°. The preferred **metal** salts (V) are those of multivalent **metals** since they have a higher degree of detergency than those of the alkali **metal** salts. IV and V are preferably used with other additives in lubricating oils. Cf. C.A. 44, 1255d.

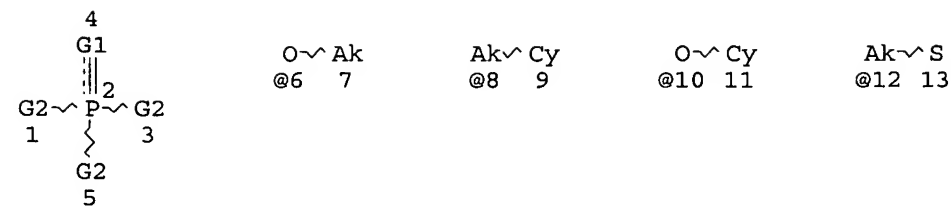
L54 ANSWER 33 OF 33 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1949:45539 HCAPLUS
DOCUMENT NUMBER: 43:45539
ORIGINAL REFERENCE NO.: 43:8210d-i,8211a-f
TITLE: Organic cyclic silicon condensation polymers
INVENTOR(S): Hersh, Joseph M.
PATENT ASSIGNEE(S): Continental Oil Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	US 2464231		19490315	US	<--
GI	For diagram(s), see printed CA Issue.				
AB	Monomeric cyclic silicon compds. have been condensed to form cyclic silicon condensation polymers (I) by improved methods and the resulting polymers used in numerous compns. I may be prepared from silicon dihalides or disilicon halides. E.g. $CH_2.CH_2.CH_2.CH_2.CH_2.SiCl_2$ (II) is prepared by stirring in a reaction flask with a reflux condenser 2.5 mols. Mg chips and 5-10 vols. anhydrous ether (on the halide used) and adding 1 mol. 1,5-dibromopentane at first slowly and undild., then more rapidly with anhydrous ether diluent. The reaction may require warming to start, or the addition of a reaction promoter, such as iodine or EtI. During the reaction an even ether reflux should be maintained for 3 hrs. by cooling. To the Grignard compound which seps. as an oily bottom layer is added slowly with rapid stirring and sharp cooling 1 mol. $SiCl_4$ in ether solution, the reaction product is decanted from the solids and fractionally distilled; essentially pure II is collected at 165-175°. The hydrolysis of II to the				

primary cyclic silicone (III) where n is not more than 5 is carried out by dissolving II in 2-3 vols. C_6H_6 , adding gradually to ice-water or ice-brine, extracting with C_6H_6 and vacuum distillation of the solvent. III may be further condensed by dissolving in a noncondensable hydrocarbon solvent and treating with an acid-acting chemical condensing agent (IV), such as H_2SO_4 , HSO_3Cl , HSO_3F , H_3PO_4 , $H_4P_2O_7$, HPO_3 , P_2O_5 , P_2S_5 , PCl_3 , PCl_5 , $ZnCl_2$, $CoCl_2$, $MnCl_2$, $FeCl_3$, $AlCl_3$, $AlBr_3$, HF , BF_3 , or HI . The time of exposure of III to IV det. the degree of condensation. At the optimum polymeric structure the condensable mass is freed of IV and inhibited from further condensation by storage at low temps., or solution in a noncondensing hydrocarbon medium, or by the addition of a condensation inhibitor (V), such as $EtOH$, $iso-PrNH_2$, certain ethanolamines, Et silicate, Et borate, $PhOH$, $p-NH_2C_6H_4OH$, N -tert-butyl- p -aminophenol, Ph silicate, or Et acetate in amts. from 1 to 10%. V must be removed prior to use of the condensed III. Many monomeric cyclic silicon compds. are listed which will undergo the above reactions producing stable, homogeneous silicones of 500 to 10,000 mol. weight. Disilicon halides may be prepared as follows: "chloro dicyclobutyl silico ether" (VI) is prepared by treating 1 mol. silicon oxychloride and 5 mols. Mg in anhydrous ether with 1,4-dichlorobutane to complete reaction, distilling off the ether and the crude VI. VI is not purified but is hydrolyzed rapidly in ice-water, washed to remove HCl producing primary dicyclobutyl silicol ether (VII) which has 2 hydroxyl groups per mol. This may be further condensed to give the condensed dicyclic silicone. VII is a practically colorless, limpid liquid which, over concentrated H_2SO_4 , gradually condenses giving off H_2O , to form a more highly condensed cyclobutyl silicone. Direct preparation of polymeric cyclic silicones may be carried out by using active metals, such as Mg , Zn , Al , Na , Li , K , $Li-Na$ alloy, or $Na-K$ alloy. Thus p -dichlorobenzene in the presence of molten dispersed particles of metallic Na (10 molal parts) in toluene or xylene reacts instantaneously with silicon oxychloride to produce "chloro dicyclophehyl silicol ether" which may then be hydrolyzed in the same vessel to produce I. Cyclic silicon esters (VIII) may be prepared by alcoholysis of the corresponding halogenated compds., such as VI. VIII are not readily hydrolyzed by H_2O and may be stored for considerable periods of time. Before condensation VIII is treated with constant-boiling HI to produce a controlled condensate. Many uses are described for the polymers. The compds. (I) may be used as antifoam agents in blended heavy-duty oils, as antifrothing agents in oily-organic processing systems, such as vacuum distillation of lubricating-oil stocks, dehydration of oils, and soap formation in the neutralization of fatty and organic acids. In certain lubricating compns. concns. of the condensed cyclic silicones of 0.1-10% may act as viscosity-improving and stabilizing agents. Halogen-bearing silicones have excellent extreme-pressure and load-carrying properties in these lubricants. When addnl. quantities of halogens are introduced in the cyclic silicon compound structure the resulting compds. form an extremely viscous, tough, thermotropic composition of high resistance to ignition and attack by insects or fungi; they are useful as fire-proofing, fungus- and insect-proofing components of impregnating or coating baths for fabrics, ropes, organic plastics, wood, etc. The higher polymeric forms of I are useful for elec. insulation, coating, etc.

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L1 STR

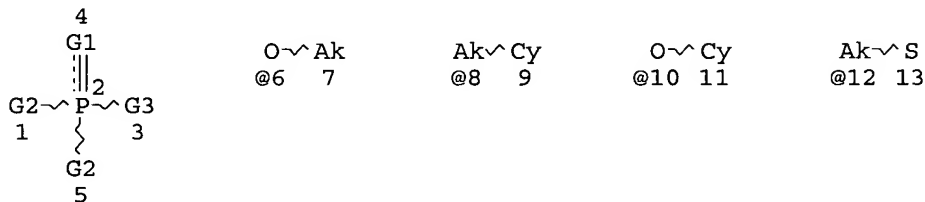


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DEFAULT ECLEVEL IS LIMITED
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NUMBER OF NODES IS 15

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L3      STR
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NUMBER OF NODES IS 17

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L9          284086 SEA FILE=REGISTRY ABB=ON  PLU=ON  METHANOL
L10         224712 SEA FILE=REGISTRY ABB=ON  PLU=ON  ETHANOL/BI
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 L12 44 SEA FILE=REGISTRY ABB=ON PLU=ON ALKANOL OR ALKANOLS
 L13 8575 SEA FILE=REGISTRY ABB=ON PLU=ON N-PROPANOL?/CN OR ISO-PROPANO
 L?/CN OR N-BUTANOL?/CN OR 2-BUTANOL?/CN OR METHOXYETHANOL
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 L23 3711905 SEA FILE=HCAPLUS ABB=ON PLU=ON L6 OR METAL OR LANTHANIDE
 L24 2157436 SEA FILE=HCAPLUS ABB=ON PLU=ON L7 OR ION OR IONS
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 OR VX
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L68 ANSWER 1 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:372126 HCAPLUS

 TITLE: The synergistic effect of **organophosphorus**
 and dithiocarbamate ligands on metal extraction in
 supercritical CO₂

 AUTHOR(S): Koh, Moonsung; Park, Kwangheon; Yang, Doohyun; Kim,
 Hakwon; Kim, Hongdoo

 CORPORATE SOURCE: Green Nuclear Research Laboratory, EIRC, Kyung Hee
 University, Kyungkido, 449-701, S. Korea

 SOURCE: Bulletin of the Korean Chemical Society (2005), 26(3),
 423-427

CODEN: BKCSDE; ISSN: 0253-2964

PUBLISHER: Korean Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The bis(2,4,4-trimethylpentyl)phosphinic acid (Cyanex-272) and sodium diethyl- dithiocarbamate (NaDDC) ligands were used to extract of **metal ions** (Cd²⁺, Co²⁺, Cu²⁺, Pb²⁺, Zn²⁺) in supercrit. CO₂. Expts. showed a strong synergistic effect and better extraction efficiency if the two ligands were used together. In-situ UV-visible observation indicates that NaDDC in the water/supercrit. CO₂ started to **decompose** slowly. The synergistic effect seems to come from the deprotonation of the **organophosphorus** ligand by amines from the **decomposed** NaDDC. The enhancing role of amines was confirmed using the mixture of Cyanex-272 and diethylamine(DEA) in the metal extraction

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 2 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:339358 HCAPLUS
 DOCUMENT NUMBER: 143:40395

TITLE: Direct Detection of S-Nitrosothiols Using Planar Amperometric Nitric Oxide Sensor Modified with Polymeric Films Containing Catalytic Copper Species
 AUTHOR(S): Cha, Wansik; Lee, Youngmi; Oh, Bong Kyun; Meyerhoff, Mark E.

CORPORATE SOURCE: Department of Chemistry, University of Michigan, Ann Arbor, MI, 48109-1055, USA

SOURCE: Analytical Chemistry (2005), 77(11), 3516-3524
 CODEN: ANCHAM; ISSN: 0003-2700

PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The direct amperometric detection of S-nitrosothiol species (RSNOs) is realized by modifying a previously reported amperometric nitric oxide gas sensor with thin hydrophilic polyurethane films containing catalytic Cu(II)/(I) sites. Catalytic Cu(II)/(I)-mediated **decomposition** of S-nitrosothiols generates NO(g) in the thin polymeric film at the distal tip of the NO sensor. Three different species are examined to create the catalytic layer: (1) a lipophilic Cu(II)-ligand complex; (2) Cu(II)-phosphate salt; and (3) small (3- μ m) metallic Cu⁰ particles. All three catalytic layers yield reversible amperometric response in proportion to the concentration of S-nitrosothiols (e.g., nitrosocysteine, nitrosogluthathione, S-nitroso-N-acetylcysteine, S-nitrosoalbumin) present in the aqueous test solution. Sensitivity toward the different RSNO species is dependent on the resp. catalytic rates of **decomposition** of the RSNO species by reactive Cu(I), accessibility of the species into the polyurethane layer containing the catalyst, the level of reducing agents (ascorbate) used in solution to help generate reactive Cu(I) species, and the concentration of **metal ion** complexing agents present in the test solution (e.g., EDTA). Under optimized conditions, all RSNO species can be detected at ≤ 1 μ M levels, with sensor lifetimes of at least 10 days for the sensors based on Cu(II)-phosphate and Cu⁰ particles. It is further shown that the new RSNO sensors can be used to assess the "NO-generating" ability of fresh blood samples by effectively detecting the total level of reactive RSNO species present in such samples.

IT 9002-84-0, PTFE

RL: DEV (Device component use); USES (Uses)

(direct detection of S-nitrosothiols using planar amperometric nitric oxide sensor modified with polymeric films containing catalytic copper species)

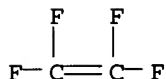
RN 9002-84-0 HCAPLUS

CN Ethene, tetrafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116-14-3

CMF C2 F4



REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 3 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:337782 HCAPLUS

DOCUMENT NUMBER: 143:26066

TITLE: 2004 Bader award lecture **metal-ion**
-catalyzed acyl and phosphoryl transfer reactions to
alcohols: La³⁺-promoted **alcoholysis** of
activated amides, carboxylate esters, and
neutral organophosphorus esters

AUTHOR(S): Brown, R. Stan; Neverov, Alexei A.; Tsang, Josephine
S. W.; Gibson, Graham T. T.; Montoya-Pelaez, Pedro J.
CORPORATE SOURCE: Department of Chemistry, Queen's University, Kingston,
ON, K7L 3N6, Can.

SOURCE: Canadian Journal of Chemistry (2004), 82(12),
1791-1805

CODEN: CJCHAG; ISSN: 0008-4042

PUBLISHER: National Research Council of Canada

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review. Unlike **metal-ion-catalyzed hydrolysis** processes, **metal-ion-catalyzed methanolysis** processes have received scant attention in the literature particularly from the standpoint of mechanistic studies. La³⁺, introduced into methanol solution as its triflate or perchlorate salt, is particularly effective in promoting **methanolysis** reactions of unactivated and activated esters, phosphate triesters, and activated amides such as acetyl imidazoles and lactams. Studies of the kinetics of **methanolysis** of these substrates as a function of solution pH and [La³⁺] indicate that the solution comprises **lanthanum** dimers with one to five associated methoxides (La₂3+(-OCH₃)₁₋₅), the most catalytically active form being La₂3+(-OCH₃)₂, which is produced at near **neutral** pH in methanol (8.4). Mechanisms for all the acyl and phosphoryl transfer reactions are proposed where the **metal ion** serves a dual role of acting as a Lewis acid to activate the C=O or P=O system to nucleophilic attack by a metal-coordinated methoxide nucleophile. In cases where direct comparisons can be made, the La₂3+ catalyst system is more active for the **methanolysis** of nonactivated substrates than for activated substrates. Another general characteristic of this system is that the catalytic rate constant for the metal complex exceeds the second-order rate constant for free methoxide, in some cases by as much as 4600-fold. Overall the catalytic effects exhibited by the La₂3+ system is spectacular for such substrates as **paraoxon**, where as little as 2 mmol L⁻¹ La(OTf)₃ in the presence of equimolar NaOCH₃ accelerates the **methanolysis** by 109-fold relative to the background reaction at **neutral** pH and ambient temperature

REFERENCE COUNT: 101 THERE ARE 101 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 4 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:314641 HCAPLUS

DOCUMENT NUMBER: 143:26136

TITLE: Mechanistic studies of La³⁺- and Zn²⁺-catalyzed **methanolysis** of aryl phosphate and phosphorothioate triesters. Development of artificial phosphotriesterase systems

AUTHOR(S): Liu, Tony; Neverov, Alexei A.; Tsang, Josephine S. W.; Brown, R. Stan

CORPORATE SOURCE: Department of Chemistry, Queen's University, Kingston, ON, K7L 3N6, Can.

SOURCE: Organic & Biomolecular Chemistry (2005), 3(8), 1525-1533

CODEN: OBCRAK; ISSN: 1477-0520

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The methanolyses of a series of O,O-di-Et O-aryl phosphates (2,5) and O,O-di-Et S-aryl phosphorothioates (6) promoted by methoxide and two **metal ion** systems, (La³⁺)₂(-OCH₃)₂ and 4:Zn²⁺:-OCH₃ (4 = 1,5,9-triazacyclododecane) has been studied in methanol at 25 °C. Bronsted plots of the log k₂ values vs. sspK_a for the phenol leaving groups give β_{lg} values of -0.70, -1.43 and -1.12 for the **methanolysis** of the phosphates and -0.63, -0.87 and -0.74 for the **methanolysis** of the phosphorothioates promoted by the methoxide, La³⁺ and Zn²⁺ systems resp. The kinetic data for the metal-catalyzed reactions are analyzed in terms of a common mechanism where there is extensive cleavage of the P-XAr bond in the rate-limiting transition state. The relevance of these findings to the mechanism of action of the phosphotriesterase enzyme is discussed.

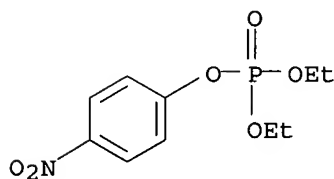
IT 311-45-5, Diethyl 4-nitrophenyl phosphate

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(**lanthanum** and zinc complexes catalyzed **methanolysis** of aryl phosphate and phosphorothioate triesters)

RN 311-45-5 HCAPLUS

CN Phosphoric acid, diethyl 4-nitrophenyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 105 THERE ARE 105 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 5 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:314637 HCAPLUS

DOCUMENT NUMBER: 142:482105

TITLE: Catalysis of the ethanolysis of aryl methylphenylphosphinate esters by alkali metal ions: transition state structures for uncatalyzed and metal ion-catalyzed reactions

AUTHOR(S): Onyido, Ikenna; Albright, Kendall; Buncel, Erwin

CORPORATE SOURCE: Department of Chemistry and Center for Agrochemical Technology, University of Agriculture, Makurdi, Nigeria

SOURCE: Organic & Biomolecular Chemistry (2005), 3(8), 1468-1475
CODEN: OBCRAK; ISSN: 1477-0520

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB This paper reports on a spectrophotometric kinetic study of the effects of the alkali metal ions Li^+ and K^+ on the ethanolysis of the $\text{PhMeP}(\text{:O})\text{OC}_6\text{H}_4\text{X}$ in anhydrous ethanol at 25 °C. Rate data obtained in the absence and presence of complexing agents afford the second-order rate consts. for the reaction of free ethoxide (kEtO^-) and metal ion-ethoxide ion pairs (kMOEt). The sequence $\text{kEtO}^- < \text{kMOEt}$ is established for all the substrates, contrary to the generally observed reactivity order in nucleophilic substitution processes. The quantities δGip , δGts and ΔGcat , which quantify the observed alkali metal ion effect in terms of transition state stabilization through chelation of the metal ion, give the order $\delta\text{Gts} > \delta\text{Gip}$ for Li^+ and K^+ . Hammett plots show significantly better correlation of rates with σ and σ_o substituent consts. than with σ^- , yielding moderately large $\rho(\rho_o)$ values that are consistent with a stepwise mechanism in which formation of a pentacoordinate (phosphorane) intermediate is the rate-limiting step. The range of the values of the selectivity parameter, $\rho_n (= \rho/\rho_{\text{eq}})$, 1.3-1.6, obtained for the uncatalyzed and alkali metal ion catalyzed reactions indicates that there is no significant perturbation of the transition state (TS) structure upon chelation of the metal ions. This finding is relevant to the mechanism of enzymic phosphoryl transfer involving metal ion co-factors. The present results enable one to compare structural effects for nucleophilic reactions of several series of organophosphorus substrates. It is shown that the order of reactivity of the substrates: 4-nitrophenyl dimethylphosphinate (2) > 3a > 4-nitrophenyl diphenylphosphinate (1) is determined mainly by the steric effects of the alkyl/aryl substituents around the central P atom in the TS of the reaction.

REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 6 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:128205 HCAPLUS

DOCUMENT NUMBER: 142:454007

TITLE: Method and device for reducing phosphor

INVENTOR(S): Zhuang, Weidong; Yu, Zhijian; Han, Junxiang; He, Huaqiang; Li, Yuhai; Zhao, Chunlei; Zhang, Shusheng

PATENT ASSIGNEE(S): Beijing Research General Institute of Non-Ferrous Metals, Peop. Rep. China; Youyan Rare Earth New Materials Co., Ltd.

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 16 pp.
CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1461790	A	20031217	CN 2002-121084	20020531
PRIORITY APPLN. INFO.:			CN 2002-121084	20020531

AB The method comprises mixing the precursor salts of phosphor, treating in controllable reducing gas ambient at 1,000-1,800° for 3-5 h, cooling rapidly, grinding, milling, washing, and drying. The precursor salt is oxide, aluminate, phosphate, cerate, titanate, and/or borate, and it may contain activating **metal ion** (such as Eu²⁺, Ce³⁺, Tb³⁺, Pr³⁺, Mn²⁺, and/or Sn²⁺). The controllable reducing gas is composed of reducing gas and diluter gas (N₂ or Ar) (at a volume ratio of 0.005-100:0-99.995). The device consists of a high temperature resistor furnace, a controllable reducing gas generating/purifying unit, a diluter gas generator, and a gas mixer. The diluter gas generator consists of a N₂ separating unit, an Ar separating unit, or a NH₄⁺-**decomposition** type N₂ generator. The reducing gas purifying unit consists of an O₂ remover and a dewatering unit.

IT 7631-86-9, Silica, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(method and device for reducing phosphor)

RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

L68 ANSWER 7 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:17509 HCAPLUS

DOCUMENT NUMBER: 142:262081

TITLE: Organic-inorganic hybrid materials with the ability to bind **metal ions**: Calorimetric properties and thermostability

AUTHOR(S): Sartore, Luciana; Penco, Maurizio; Bigotti, Fabio; Pedrotti, Cristian; D'Antone, Salvatore

CORPORATE SOURCE: Dipartimento di Chimica e Fisica per l'Ingegneria e per i Materiali, Brescia, 25123, Italy

SOURCE: Macromolecular Symposia (2004), 218(Current Topics in Polymer Science and Technology), 221-229
CODEN: MSYMEC; ISSN: 1022-1360

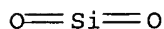
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Organic-inorg. hybrid materials with excellent heavy **metal ions** chelating properties were synthesized by covalent bonding of multifunctional polymers of polyamidoamine (PAA) type onto silica. Two series of polyamidoaminesilica hybrid materials differing in the PAA chemical structure were prepared and their thermal properties were investigated. Differential Scanning Calorimetry was used to study the effects of chain immobilization and **ion** chelation on the glass-**transition** temperature (T_g) of the polymers. The T_g of PAA-hybrid materials was elevated with respect to ungrafted PAAs. Complex formation with **metal ions** such as Cu⁺⁺ or Co⁺⁺ caused total suppression of T_g for both linear polymers as well as the corresponding hybrid materials. Finally, the silica particles slightly influenced the **decomposition** temps. of linear polymers increasing their thermal stability.

IT 7631-86-9DP, Silica, amino-functionalized, reaction products with linear polyamide-polyamines
 RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation) (thermal and chelating properties of silica-grafted linear polyamide-polyamines)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 8 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:780573 HCAPLUS

DOCUMENT NUMBER: 141:265170

TITLE: Method of **decomposing organophosphorus** compounds using **lanthanum** ion

INVENTOR(S): Brown, R. Stanley; Neverov, Alexei A.; Tsang, Josephine S. W.

PATENT ASSIGNEE(S): Queen's University at Kingston, Can.

SOURCE: PCT Int. Appl., 68 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004080543	A2	20040923	WO 2004-CA379	20040312
WO 2004080543	A3	20041118		
WO 2004080543	B1	20050203		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

US 2004230082 A1 20041118 US 2004-798880 20040312

PRIORITY APPLN. INFO.: US 2003-453762P P 20030312

AB Methods and kits for **decomposing organophosphorus** compds. in nonaq. media at ambient conditions are described. **Insecticides**, **pesticides**, and chemical warfare agents can be quickly **decomposed** to nontoxic products. The method comprises combining the **organophosphorus** compound with a nonaq. solution, preferably an alc., comprising **metal** ions and at least a trace amount of alkoxide ions. In a 1st preferred embodiment, the **metal** ion is a La ion. In a 2nd preferred embodiment, the **metal** ion is a transition metal.

IT 311-45-5, Paraoxon

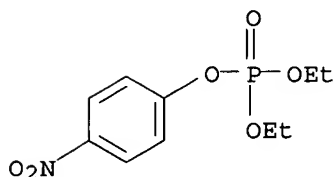
RL: EPR (Engineering process); PEP (Physical, engineering or chemical

process); POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence);
PROC (Process)

(method of **decomposing organophosphorus** compds. using
lanthanum ion)

RN 311-45-5 HCAPLUS

CN Phosphoric acid, diethyl 4-nitrophenyl ester (9CI) (CA INDEX NAME)



L68 ANSWER 9 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:769851 HCAPLUS

DOCUMENT NUMBER: 141:410584

TITLE: Zn²⁺-Catalyzed **Methanolysis** of Phosphate
Triesters: A Process for Catalytic Degradation of the
Organophosphorus Pesticides
Paraoxon and Fenitrothion

AUTHOR(S): Desloges, William; Neverov, Alexei A.; Brown, R. S.

CORPORATE SOURCE: Department of Chemistry, Queen's University, Kingston,
ON, K7L 3N6, Can.

SOURCE: Inorganic Chemistry (2004), 43(21), 6752-6761

CODEN: INOCAJ; ISSN: 0020-1669

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The methanolyses of two **neutral** phosphorus triesters, **paraoxon** (1) and fenitrothion (3), were investigated as a function of added Zn(OTf)₂ or Zn(ClO₄)₂ in methanol at 25 °C either alone or in the presence of equimolar concns. of the ligands phenanthroline (4), 2,9-dimethylphenanthroline (5), and 1,5,9-triazacyclododecane (6). The catalysis requires the presence of methoxide, and when studied as a function of added NaOCH₃, the rate consts. (kobs) for **methanolysis** of Zn²⁺ alone or in the presence of equimolar 4 or 5 maximize at different [-OCH₃]/[Zn²⁺]total ratios of 0.3, 0.5, and 1.0, resp. Plots of kobs vs [Zn²⁺]total either alone or in the presence of equimolar ligands 4 and 5 at the [-OCH₃]/[Zn²⁺]total ratios corresponding to the rate maxima are curved and show a nonlinear dependence on [Zn²⁺]total. In the cases of 4 and 5, this is explained as resulting from formation of a nonactive dimer, formulated as a bis-μ-methoxide-bridged form (L:Zn²⁺(-OCH₃)₂Zn²⁺:L) in equilibrium with an active monomeric form (L:Zn²⁺(-OCH₃)). In the case of the Zn²⁺:6 system, no dimeric forms are present as can be judged by the strict linearity of the plots of kobs vs [Zn²⁺]total in the presence of equimolar 6 and -OCH₃. Anal. of the potentiometric titration curves for Zn²⁺ alone and in the presence of the ligands allows calcn. of the speciation of the various Zn²⁺ forms and shows that the binding to ligands 4 and 6 is very strong, while the binding to ligand 5 is weaker. Overall the best catalytic system is provided by equimolar Zn²⁺, 5, and -OCH₃, which exhibits excellent turnover of the **methanolysis** of **paraoxon** when the substrate is in excess. At a concentration of 2 mM in each of these components, which sets the sspH of the solution at 9.5, the acceleration of the **methanolysis** of **paraoxon** and fenitrothion relative to the methoxide reaction is 1.8 + 10⁶-fold

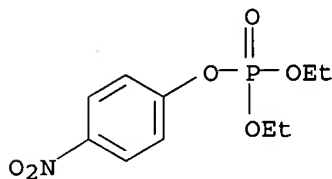
and 13 + 106-fold, resp. A mechanism for the catalyzed reactions is proposed which involves a dual role for the **metal ion** as a Lewis acid and source of nucleophilic Zn^{2+} -bound $-\text{OCH}_3$.

IT 311-45-5, **Paraoxon**

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent) (31P NMR and potentiometric titration on Zn^{2+} -catalyzed **methanolysis of pesticides phosphate triesters**)

RN 311-45-5 HCAPLUS

CN Phosphoric acid, diethyl 4-nitrophenyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 86 THERE ARE 86 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 10 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:685537 HCAPLUS

DOCUMENT NUMBER: 142:202872

TITLE: The new technology for improving heat effect of pyroelectric infrared detector

AUTHOR(S): Song, Zhi-tang; Feng, Song-Lin; Lin, Chenglu; Wang, Yu; Chan, Lai-wah Helen Wong; Choy, Chung-loong

CORPORATE SOURCE: State Key Laboratory of Functional Materials for Informatics, The Research Center of Semiconductor Functional Film Engineering Technology, Shanghai Institute of Micro-systems and Information Technology, Chinese Academy of Sciences, Shanghai, 200050, Peop. Rep. China

SOURCE: Ceramics International (2004), 30(7), 1823-1826
CODEN: CINNDH; ISSN: 0272-8842

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In this paper, the vacuum layer was formed by He ions injection and heating treatment under SiO_2 layer. Ca-modified $(\text{Pb}, \text{La})\text{TiO}_3$ (PLCT) films were deposited on Pt-coated silicon substrates using metal-organic **decomposition** (MOD) process. The preferred-orientation polycryst. films were formed. XRD, HRTEM, RBS, had characterized the microstructure. The elec. properties were measured by HP4284 and ASR. It was found that the microstructure had no effect under the cavum layer. The PLCT films exhibit lower dielec. constant and dielec. loss compared with the PLCT films which have not the cavum layer at room temperature. The cavum layer can act as heating barrier and the lower dielec. constant and dielec. loss can improve the quality factor of IR detector device.

IT 7440-06-4, Platinum, uses 7440-32-6, Titanium, uses

7631-86-9, Silica, uses

RL: DEV (Device component use); USES (Uses)

(substrate, multilayered; He ion injection treatment of Pt/Ti/ SiO_2 /Si substrates for improved heat effect of Ca-modified $(\text{Pb}, \text{La})\text{TiO}_3$ film-based pyroelec. IR detector)

RN 7440-06-4 HCAPLUS

CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-32-6 HCAPLUS

CN Titanium (8CI, 9CI) (CA INDEX NAME)

Ti

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 11 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:649426 HCAPLUS

DOCUMENT NUMBER: 141:179264

TITLE: Brushes for cleaning between teeth and charcoal-containing biocompatible metal wires for them

INVENTOR(S): Ogami, Hiroyuki

PATENT ASSIGNEE(S): Kanei, Hiroaki, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004222966	A2	20040812	JP 2003-14349	20030123
PRIORITY APPLN. INFO.:			JP 2003-14349	20030123

AB Title wires comprise metal wires, a coating layer (preferably made of fluoropolymer), and exposed granular charcoal. The charcoal absorbs or **decomps.** germs, thus showing deodorizing effect. The coating layer prevents elution of **metal ions**, ensuring the biocompatibility of the wires. Fluoropolymer-coated wires show good water repellency, thus dental plaque and foods adhered on the wires are easily washed away.

IT 9002-84-0, PTFE

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(fluoropolymer-coated, charcoal-containing biocompatible metal wires for brushes for cleaning between teeth)

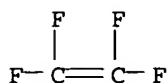
RN 9002-84-0 HCAPLUS

CN Ethene, tetrafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116-14-3

CMF C2 F4



L68 ANSWER 12 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:491476 HCAPLUS

DOCUMENT NUMBER: 141:400152

TITLE: Internal loading of nutrients and certain metals in the shallow eutrophic Lake Myvatn, Iceland

AUTHOR(S): Thorbergisdottir, Ingunn Maria; Gislason, Sigurdur Reynir

CORPORATE SOURCE: Department of Geology, University of Iceland, Reykjavik, 101, Iceland

SOURCE: Aquatic Ecology (2004), 38(2), 191-208
CODEN: AQECF9; ISSN: 1386-2588

PUBLISHER: Kluwer Academic Publishers

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Sub-Arctic Lake Myvatn is one of the most productive lakes in the Northern Hemisphere, despite an ice cover of 190 days/yr. In-situ transparent and dark flux chambers were used to directly measure benthic dissolved O₂ (DO), nutrients, SiO₂, and metal fluxes, accounting for primary production and mineral precipitation. The range of benthic flux observed for DO, dissolved inorg. C

(DIC), NH₄⁺, ZPO₄³⁻, SiO₂, Ca, and Mg was -45.89 to 187.03, -99.32 to 50.96, -1.30 to 1.27, -0.51 to 0.39, -62.3 to 9.3, -33.82 to 16.83, and -23.93 to 7.52 mmol/m²-day, resp. (neg. values indicate flux toward the lake bottom). Low benthic NH₄⁺ and PO₄³⁻ fluxes were likely related to benthic algal production and aerobic bottom water. PO₄³⁻ fluxes could also be controlled by dissoln./precipitation of ferrihydrite, calcite, and perhaps hydroxyapatite. Neg. SiO₂ fluxes were caused by diatom frustule synthesis. Benthic Ca and Mg fluxes could be related to algal production and dissoln./precipitation of Ca and/or Ca- or Mg-carbonates. DO, DIC, pH, and alkalinity

fluxes were related to benthic biol. processes. It is likely some C ppts. as calcite at high pH in summer and dissolves at **neutral** pH in winter. The mean gross benthic DIC consumption: gross benthic DO production ratio was 0.94 ± 0.18, consistent with algal production using NH₄⁺ as a N source. In summer water column pH remains >10. This high pH is caused by direct and indirect utilization of CO₂, HCO₃⁻, CO₃²⁻, H₄SiO₄⁰, and H₃SiO₄ by primary producers. Results showed that in shallow lakes at high latitudes, where summer days are long and primary production is mostly by diatoms, pH is forced to very high values. The high pH could lead to a pos. feedback for the Si flux, but neg. feedback for the NH₄⁺ flux.

IT 14798-03-9, Ammonium, processes

RL: BCP (Biochemical process); OCU (Occurrence, unclassified); REM (Removal or disposal); BIOL (Biological study); OCCU (Occurrence); PROC (Process)

(internal dissolved nutrient, **metal**, and silica loading and benthic fluxes in shallow eutrophic Lake Myvatn, Iceland)

RN 14798-03-9 HCAPLUS

CN Ammonium (8CI, 9CI) (CA INDEX NAME)

NH₄⁺

IT 7631-86-9, Silica, processes
 RL: BCP (Biochemical process); OCU (Occurrence, unclassified); REM
 (Removal or disposal); BIOL (Biological study); OCCU (Occurrence); PROC
 (Process)
 (total dissolved; internal dissolved nutrient, metal, and silica
 loading and benthic fluxes in shallow eutrophic Lake Myvatn, Iceland)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

REFERENCE COUNT: 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 13 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:381767 HCAPLUS

DOCUMENT NUMBER: 140:425677

TITLE: Metal-support interaction effects on the growth of
 filamentous carbon over Co/SiO₂ catalysts

AUTHOR(S): Li, Xiaonian; Zhang, Yi; Smith, Kevin J.

CORPORATE SOURCE: Department of Chemical & Biological Engineering,
 University of British Columbia, Vancouver, BC, V6T
 1Z4, Can.

SOURCE: Applied Catalysis, A: General (2004), 264(1), 81-91
 CODEN: ACAGE4; ISSN: 0926-860X

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The addition of BaO, La₂O₃ and ZrO₂ to the SiO₂ support of a 12 weight% Co/SiO₂
 catalyst modifies the reduction behavior of Co species and leads to changes in
 metal dispersion. These changes are due to a modified metal-support
 interaction (MSI) between cobalt species and the MexO_y/SiO₂ (MexO_y: BaO,
 ZrO₂ and La₂O₃) support. Catalyst characterization by temperature-programmed
 reduction (TPR) and XPS have been used to determine the relative strength of

the

MSI and the results suggest an increasing MSI in the order Co/SiO₂
 \approx Co/BaO/SiO₂ < Co/La₂O₃/SiO₂ < Co/ZrO₂/SiO₂. The rate of
 catalyst deactivation during methane **decomposition** (CH₄ \leftrightarrow C +
 2H₂) is shown to increase with increasing MSI. Anal. of the used
 catalysts also shows that an increasing rate of deactivation correlates
 with an increasing amount of graphitic carbon vs. carbidic carbon on the
 used catalyst. It is suggested that an increase in graphitic carbon is a
 consequence of a strong MSI that limits carbon removal from the metal
 surface by filament formation. Consequently, graphitic, encapsulating
 carbon is formed from the carbon deposited during methane **decompn**
 .. leading to deactivation of the catalyst.

IT 7631-86-9, Silica, uses

RL: CAT (Catalyst use); USES (Uses)

(metal-support interaction effects on the growth of filamentous carbon
 over Co/SiO₂ catalysts for methane **decomposition**)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

IT 12385-15-8, Carbide

RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
 (metal-support interaction effects on the growth of
 filamentous carbon over Co/SiO₂ catalysts for methane decompn
 .)

RN 12385-15-8 HCAPLUS
 CN Carbide (8CI, 9CI) (CA INDEX NAME)

C4-

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 14 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:222680 HCAPLUS
 TITLE: Analysis of the chemical fate of several carbamate
pesticides and of their coordination chemistry
 with copper
 AUTHOR(S): Davies, Shawn E.; Muhoro, Clare N.
 CORPORATE SOURCE: Department of Chemistry, Shippensburg University,
 Shippensburg, PA, 17257, USA
 SOURCE: Abstracts of Papers, 227th ACS National Meeting,
 Anaheim, CA, United States, March 28-April 1, 2004
 (2004), CHED-360. American Chemical Society:
 Washington, D. C.
 CODEN: 69FGKM
 DOCUMENT TYPE: Conference; Meeting Abstract
 LANGUAGE: English
 AB **Pesticide** use is an on-going concern of environmentalists due to
 the often-unknown chemical fate of agrochemicals., including carbamates.
 Carbamate compds. are derivs. of carbamic acid and are widely used as
 agricultural pest control agents. These compds. can bear basic nitrogen
 and oxygen groups that are susceptible to reaction with ambient
 electrophiles, such as **metal ions**. Such
 carbamate-metal complexation may alter metal and/or ligand properties, and
 perhaps lead to alternative carbamate degradation and changes in **metal**
ion solubility Our studies investigate the coordination chemical of
 benomyl, methomyl, and formetanate HCl with copper, which is introduced
 environmentally through various inorg. **pesticides**. Studies on
 chemical **decomposition** of carbamates under various conditions of pH,
 temperature, and ionic strength will be discussed. A pathway to the
 degradation
 products will be presented in conjunction with environmental mapping data
 from a field site located in an intensively cultivated carbamate-using
 tropical region.

L68 ANSWER 15 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:38634 HCAPLUS
 DOCUMENT NUMBER: 140:64308
 TITLE: Synthetic chelating agents and compounds exhibiting
 complexing properties in the aquatic environment
 AUTHOR(S): Knepper, Thomas P.
 CORPORATE SOURCE: ESWE-Institute for Water Research and Water
 Technology, Wiesbaden, D-65203, Germany
 SOURCE: TrAC, Trends in Analytical Chemistry (2003), 22(10),
 708-724
 CODEN: TTAEDJ; ISSN: 0165-9936
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review. Synthetic chelating agents are utilized in many industrial applications because of their capability of binding and masking **metal ions**. This review of 20 main compds. includes chelating agents and other compds., such as the **organophosphonates** or polycarboxylates, which, by binding **metal ions**, also exhibit some complexing properties. It aimed to gather data about production, use, toxicity, entry into the aquatic environment, fate, and environmental behavior. In spite of the low toxicity and metal mobilization values calculated for the measured or predicted environmentally observed concns., many of the investigated synthetic complexing agents, such as EDTA, can be classified as environmentally relevant, since they are microbially poorly degradable and exhibit excellent water solubility. Thus they are not or only partially removed during drinking water treatment utilizing filtration and biodegrdn. steps. For other compds. that bind **metal ions**, such as the **organophosphonates**, adsorption is an important route of elimination from the water phase. The data available regarding concns. of synthetic complexing agents in the aquatic environment has until now almost exclusively focused on the aminocarboxylates. The main examples are EDTA and NTA, which are present in the low $\mu\text{g/L}$ range in almost all anthropogenically influenced streams and rivers in industrialized countries, such as Germany. Concentration data regarding DTPA and PDTA are quite scarce. Reported values of these compds. lie mostly in the detection-limit range 1-2 $\mu\text{g/L}$. DTPA concns. found in sewage effluents of paper and pulp mills are in the mg/L range, while maximum concns. reported for rivers are $\leq 72 \mu\text{g/L}$. The predicted concns. in surface waters for most of the investigated compds. are also in the lower $\mu\text{g/L}$ range, e.g. for the **organophosphonates** between 0.25-2.5 $\mu\text{g/L}$. But until now, except for the aminocarboxylates, anal. methods do not exist for their quantification at these low concns. It is recommended that the entry of chelating and metal-binding agents into the water phase should be minimized by applying various measures. All industrial processes and productions dealing with poorly degradable chelating agents and compds. that bind **metal ions** should be used as little as possible, and their emission into the aquatic environment should be as low as possible. Wherever possible, substitution with compds. exhibiting better degradability should also be sought.

REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 16 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:373596 HCAPLUS

DOCUMENT NUMBER: 139:33077

TITLE: Degradation of selected substituted phenols by Rhodococcus strains

AUTHOR(S): Haritha, G.; Purohit, H. J.; Patil, M. B.

CORPORATE SOURCE: Post Graduate Teaching Department of Biochemistry, L.I.T. Premises, Nagpur University, Nagpur, 440010, India

SOURCE: Asian Journal of Microbiology, Biotechnology & Environmental Sciences (2003), 5(1), 81-85

CODEN: AJMBAQ; ISSN: 0972-3005

PUBLISHER: Global Science Publications

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Rhodococcus strains capable of growing on selected substituted phenols as a sole source of C were isolated from pharmaceutical waste dump site and **pesticide** contaminated soil after enrichment culture. Expts. revealed that the isolated strains utilized chloronitrophenol,

chloronitrotoluene, and dinitrophenol, after 6 h of adaptation and could degrade up to 0.5 mM concentration Various parameters including effect of temperature,

pH, metal ions were studied.

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 17 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:257707 HCAPLUS

DOCUMENT NUMBER: 138:250156

TITLE: Antibacterial materials comprising partially coated titanium oxides or diamond-like carbon, and products using them

INVENTOR(S): Togeda, Hiroshi

PATENT ASSIGNEE(S): National Institute of Advanced Industrial Science and Technology, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

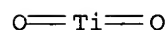
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

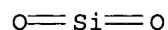
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003095805	A2	20030403	JP 2001-295481	20010927
WO 2003029394	A1	20030410	WO 2002-JP10095	20020927
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1437397	A1	20040714	EP 2002-768126	20020927
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
CN 1558943	A	20041229	CN 2002-818962	20020927
US 2004245496	A1	20041209	US 2004-490853	20040326
PRIORITY APPLN. INFO.:				
			JP 2001-295463	A 20010927
			JP 2001-295472	A 20010927
			JP 2001-295481	A 20010927
			JP 2001-295488	A 20010927
			WO 2002-JP10095	W 20020927
AB	The materials comprise TiOx (1.5 < x < 2), TiOxN2-x (1 < x < 2), diamond-like carbon, TiOx-SiO2 (1.5 < x ≤ 2), or metal ion-doped TiO2 partially coated with photoinert ceramics. The materials show decomposition and detoxication of bacteria by visible light irradiation as well as UV irradiation TiO2 microparticles were reduced by plasma treatment, and treated with H2O followed by (EtO)2Si to give a partially silica-coated O-deficient TiO2.			
IT	13463-67-7, Titanium oxide, biological studies			
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) (chromium ion-doped; antibacterial agents comprising Ti oxides or diamond-like carbon partially coated with ceramics)				

RN 13463-67-7 HCAPLUS
 CN Titanium oxide (TiO₂) (8CI, 9CI) (CA INDEX NAME)



IT 7631-86-9, Silica, biological studies
 RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
 (composite with titania; antibacterial agents comprising Ti oxides or diamond-like carbon partially coated with ceramics)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L68 ANSWER 18 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002:921788 HCAPLUS
 DOCUMENT NUMBER: 138:15117
 TITLE: Subterranean formation treating fluid concentrates, treating fluids and methods
 INVENTOR(S): Weaver, Jim D.; Wilson, Steve F.; Bowles, Bobby K.; Slabaugh, Billy F.; Parker, Mark A.; Barrick, David M.; Heath, Stanley J.; Walters, Harold G.; Cole, R. Clay
 PATENT ASSIGNEE(S): Halliburton Energy Services, Inc., USA
 SOURCE: U.S., 11 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 6
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6488091	B1	20021203	US 2001-879634	20010611
CA 2390052	AA	20021211	CA 2002-2390052	20020607
NO 2002002753	A	20021212	NO 2002-2753	20020610
EP 1267034	A2	20021218	EP 2002-254023	20020610
EP 1267034	A3	20040204		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2002002172	A	20030401	BR 2002-2172	20020610
AU 2002045899	A5	20021212	AU 2002-45899	20020611
AU 780512	B2	20050324		
US 2003114539	A1	20030619	US 2002-254268	20020925
US 2004018943	A1	20040129	US 2003-623438	20030718
US 2004214724	A1	20041028	US 2003-650101	20030826
US 2005137094	A1	20050623	US 2005-58581	20050215
PRIORITY APPLN. INFO.:			US 2001-879634	A 20010611
			US 2002-254268	A2 20020925
AB Subterranean formation treating fluid concs., treating fluids and methods are provided by the present invention. The treating fluid concs. are basically comprised of water and a substantially fully hydrated depolymd. polymer, preferably of cellulosic or guar-type origin, at a rate of 0.2 - 5% based on weight of water, and a crosslinking agent for crosslinking the				

hydrated depolymd. polymer. Other materials such as buffers, emulsification inhibiting surfactants, pH modifiers, chloride salt-based clay stabilizing agents, and gelation breakers-delinking agents may be added to the formulation. The crosslinking agents may be a boron compound, or other compds. supplying selected trivalent or tetravalent metal ions.

IT 7631-86-9, Silica, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (fluid loss control agent; subterranean formation fracturing treating fluid concs., treating fluids and methods)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

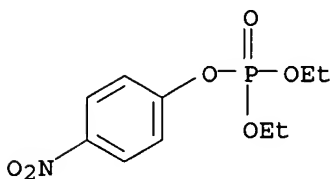
O=Si=O

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 19 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002:266058 HCAPLUS
 DOCUMENT NUMBER: 137:59300
 TITLE: **Organophosphate** hydrolase - an enzyme catalyzing degradation of phosphorus-containing toxins and **pesticides**
 AUTHOR(S): Efremenko, E. N.; Sergeeva, V. S.
 CORPORATE SOURCE: Department of Chemistry, M. V. Lomonosov Moscow State University, Moscow, 119899, Russia
 SOURCE: Russian Chemical Bulletin (Translation of Izvestiya Akademii Nauk, Seriya Khimicheskaya) (2001), 50(10), 1826-1832
 CODEN: RCBUEY; ISSN: 1066-5285
 PUBLISHER: Kluwer Academic/Consultants Bureau
 DOCUMENT TYPE: Journal; General Review
 LANGUAGE: English

AB A review. The available investigations on the structure and properties of the enzyme **organophosphate** hydrolase exhibiting catalytic activity with respect to orthophosphates are reviewed. Recent data on the mechanism of enzymic hydrolysis of **paraoxon** are surveyed. The role of two metal ions involved in the enzyme active site is considered. The substrate specificity and the influence of various inhibitors on the kinetic characteristics of the enzyme are discussed.

IT 311-45-5, **Paraoxon**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (**organophosphate** hydrolase structure and properties with respect to degradation of P-containing toxins and **pesticides**)
 RN 311-45-5 HCAPLUS
 CN Phosphoric acid, diethyl 4-nitrophenyl ester (9CI) (CA INDEX NAME)



IT 117698-12-1, **Organophosphate** hydrolase
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)
 (organophosphate hydrolase structure and properties with
 respect to degradation of P-containing toxins and **pesticides**)
 RN 117698-12-1 HCAPLUS
 CN Esterase, organophosphate (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 20 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:812464 HCAPLUS

DOCUMENT NUMBER: 136:127072

TITLE: RHEED and XPS studies of the **decomposition**
 of silicon dioxide by the bombardment of **metal**
ions

AUTHOR(S): Wang, S. J.; Ong, C. K.; Xu, S. Y.; Chen, P.; Chai, J.
 W.; Tjiu, W. C.; Pan, J. S.; Huan, A. C. H.; Feng, W.;
 Lim, J. S.; Yoo, W. J.; Choi, W. K.

CORPORATE SOURCE: Center for Superconducting and Magnetic Materials
 (CSMM), National University of Singapore, Singapore,
 119260, Singapore

SOURCE: Surface Review and Letters (2001), 8(5), 521-526
 CODEN: SRLEFH; ISSN: 0218-625X

PUBLISHER: World Scientific Publishing Co. Pte. Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In this paper, the authors report RHEED and XPS studies of the
decomposition of SiO₂ by bombardment with **metal ions**
 and the growth of an ultrathin crystalline zirconia oxide film on silicon.
 Through XPS anal. it was found that silicon dioxide could be
decomposed by bombardment with Zr ions in high temperature and lower
 partial pressure. SiO₂ was **decomposed** into evaporated silicon oxide,
 while part of the oxygen in SiO₂ reacted with **metal** Zr
ions to form stable zirconia oxide film. The **metal**
ions reacted with SiO₂ homogeneously. Because of the smoothness
 of the native SiO₂ surface and atomically abrupt SiO₂ interface with
 silicon, native oxide layer on silicon wafer was evenly removed and a
 sharp stable crystalline zirconia oxide interface with silicon was formed. The
 crystalline yttria-stabilized zirconia oxide (YSZ) film with equivalent elec.
 oxide

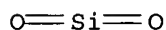
thickness 1.46 nm show excellent elec. properties, an interface state d.
 less than $2 + 10^{11}$ eV⁻¹cm⁻², and leakage current $1.1 + 10^{-3}$
 A/cm² at 1.0 V bias. Thus, this method can be used to deposit high-k
 metal oxide as alternative dielects. for future generation devices.

IT 7631-86-9, Silicon dioxide, formation (nonpreparative)

RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
 (RHEED and XPS studies of **decomposition** of silicon dioxide by
 bombardment with **metal ions**)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 21 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:514797 HCAPLUS

DOCUMENT NUMBER: 135:111330

TITLE: Deodorizing porous body containing metalloporphyrin

INVENTOR(S): Aramata, Kaoru; Fukushima, Yoshiaki; Goto, Yasutomo;
Fukuda, Hiroaki; Takagi, Tomoki; Okamoto, YasushiPATENT ASSIGNEE(S): Toyota Central Research and Development Laboratories,
Inc., Japan; Denso Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

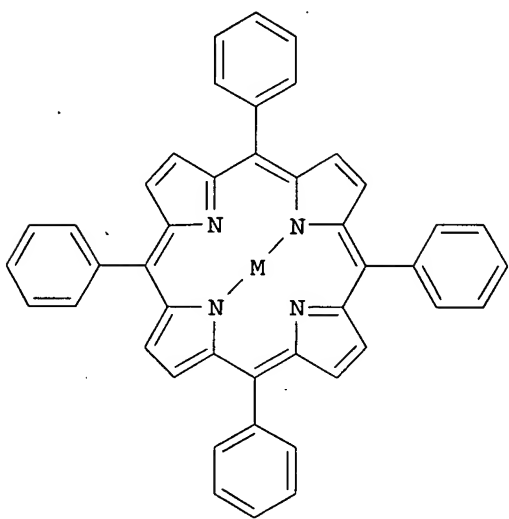
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

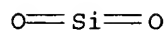
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001190649	A2	20010717	JP 2000-1683	20000107
PRIORITY APPLN. INFO.: GI			JP 2000-1683	20000107



I

- AB The porous body comprises mesoporous silica and/or modified mesoporous silica containing metalloporphyrin I (M = metal ion). Preferably, M is Fe ion, Co ion, Cu ion, or Ru ion. Preferably, the mesoporous silica is modified with aminopropyl- or mercaptopropyl group. The article has high malodor decomposition performance.
- IT 7631-86-9D, FSM 16, aminopropyl- or mercaptopropyl group-containing
RL: TEM (Technical or engineered material use); USES (Uses)
(deodorizing porous body containing metalloporphyrin and mesoporous silica)
- RN 7631-86-9 HCAPLUS
- CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L68 ANSWER 22 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:413876 HCAPLUS

DOCUMENT NUMBER: 135:222453

TITLE: Enzyme/indicator optrodes for detection of heavy **metal ions and pesticides**

AUTHOR(S): Nabok, Alexei V.; Ray, Asim K.; Starodub, Nickolaj F.; Dowker, Kenneth P.

CORPORATE SOURCE: Physical Electronic and Fibre Optics Research Laboratories, Sheffield Hallam University, School of Engineering, Sheffield, S1 1WB, UK

SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2000), 4200(Biochemical and Biomolecular Sensing), 32-41
CODEN: PSISDG; ISSN: 0277-786X

PUBLISHER: SPIE-The International Society for Optical Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Composite films containing enzyme and indicator mols. were produced by means of polyelectrolyte self-assembly. These membranes provide two functions: (i) mol. recognition of the substratum by resp. enzyme, and (ii) optrode transducing, when the products of the substratum **decomposition** affect optical spectra of indicator mols. Apart from direct registration of enzyme reactions, inhibition reactions can also be monitored with this method. Particularly, heavy metal salts and phosphor organic **pesticides** acting as inhibitors for Urease and Cholinesterase, resp., were registered. Composite PESA films were deposited onto glass slides and consisted of several layers of poly(alkylamine) hydrochloride (PAA) alternated with indicator mols., either Cyclo-tetra- chromotroprylene or Thymol Blue, both containing SO₃- Na⁺ groups. Then a few layers of PAA/enzyme were deposited on top. A typical structure of the samples was (PAA/Indicator)_n/(PAA/Enzyme)_m/PAA with n equals 1-5. The obtained films were characterized with UV-visible absorption spectroscopy. The effect of the substrate **decomposition** on the UV-vis spectra of resp. indicator mols. was studied. The inhibition of enzymes Urease and Cholinesterase by heavy **metal ions** and phosphoroorg. **pesticide**, resp. was found. The results obtained show the prospects towards development of optical enzyme sensor arrays.

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 23 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:190617 HCAPLUS

DOCUMENT NUMBER: 134:256276

TITLE: Bioremediation of residual fertilizer nitrate: II. Soil redox potential and soluble iron as indicators of soil health during treatment

AUTHOR(S): Ugwuegbu, Benjamin U.; Prasher, Shiv O.; Ahmad, Darakhshan; Dutilleul, Pierre

CORPORATE SOURCE: Dep. of Agricultural and Biosystems Engineering, McGill Univ., Ste. Anne-de-Bellevue, QC, H9X 3V9, Can.

SOURCE: Journal of Environmental Quality (2001), 30(1), 11-18
CODEN: JEVQAA; ISSN: 0047-2425

PUBLISHER: American Society of Agronomy

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The prospect of using wastewater containing high soluble organic matter (OM) loads

to remove residual agricultural chems. (fertilizer, **pesticide**, herbicide) in farm soil, although promising, could have adverse effects on soil agricultural quality as a result of development of redoximorphic features in the soil profile. The effect of organic C supplements on bioremediation of residual fertilizer NO₃⁻ on soil properties, redox potential (Eh), pH, and **metal ion** mobilization was studied using sandy soils packed in columns. The study was part of a general project conducted to evaluate use of controlled water table management (WTM) systems to supply organic C to create a reduced environment conducive to denitrification of residual fertilizer NO₃⁻ leached from the farm to groundwater. Columns were subjected to sub-irrigation with water containing soluble organic C in the form of glucose. Work was conducted in 2

exptl.

set-ups; the long-term effect of a range of glucose concns. on Eh, pH, and soluble Fe and Mn concns. was examined. Results showed that excessive organic C supplement to soil can adversely affect soil quality and that Eh and soluble Fe are the 2 most practical parameters to monitor soil health during treatment of farm chems.

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 24 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:414442 HCAPLUS

DOCUMENT NUMBER: 133:21496

TITLE: Comparative study of **decomposition** of N₂O over **metal oxides** and **metal ion** exchanged ZSM-5 zeolites

AUTHOR(S): Goto, Takashi; Niimi, Akinari; Hirano, Ken; Takahata, Nozomu; Fujita, Shin-ichiro; Shimokawabe, Masahide; Takezawa, Nobutsune

CORPORATE SOURCE: Division of Materials Science and Engineering, Graduate School of Engineering, Hokkaido University, Sapporo, 060-8628, Japan

SOURCE: Reaction Kinetics and Catalysis Letters (2000), 69(2), 375-378

CODEN: RKCLAU; ISSN: 0304-4122

PUBLISHER: Akademiai Kiado

DOCUMENT TYPE: Journal

LANGUAGE: English

AB At lower temps. or in the presence of O₂, metal oxides have been shown to have higher turnover frequency for the **decomposition** of N₂O than corresponding **metal ion** exchanged ZSM-5. Performance of Cu, Co Ni, Cr, Zr, Mg, and Ca-exchanged ZSM-5 zeolites was compared with that of CuO, Co₃O₄, Fe₂O₃, NiO, Cr₂O₃, ZrO₂, MgO and CaO.

IT 1309-37-1, Ferric oxide, uses

RL: CAT (Catalyst use); USES (Uses)

(comparative study of **decomposition** of N₂O over **metal oxides** and **metal ion** exchanged ZSM-5 zeolites)

RN 1309-37-1 HCAPLUS

CN Iron oxide (Fe₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 25 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:370986 HCAPLUS

DOCUMENT NUMBER: 133:93770

TITLE: EPR investigations of bonding and activation of nitrogen oxides by surface complexes of **transition metal ions**

AUTHOR(S): Sojka, Z.

CORPORATE SOURCE: Faculty of Chemistry, Jagiellonian University, Krakow, Pol.

SOURCE: Applied Magnetic Resonance (2000), 18(1), 71-83
CODEN: APMREI; ISSN: 0937-9347

PUBLISHER: Springer-Verlag Wien

DOCUMENT TYPE: Journal

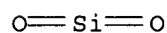
LANGUAGE: English

AB ESR spectroscopy was used to examine changes occurring at the mol. level during coordination and activation of NO and N2O small pollutant mols. on Cu/ZSM-5 and Mo/SiO2 catalysts, resp. It was shown that NO activation occurred by formation of a bent $\eta^1\{\text{CuNO}\}^{\parallel}$ surface adduct with re-hybridization of the NO orbitals. Spin Hamiltonian parameters of this species were analyzed in detail, leading to a mol. and electronic picture of the complex. The mechanism along which N2O is **decomposed** upon interaction with surface Mo5+ species involved dissociative metal-to-ligand electron transfer. The reaction was monitored by EPR using naturally abundant and 95Mo-enriched molybdenum. Dynamics of N-O bond cleavage is discussed in terms of 2-dimensional Morse potential energy surfaces. From EPR parameters of the resultant O- radical, the spin d. distribution and stabilization energy were calculated

IT **7631-86-9**, Silica, uses
RL: CAT (Catalyst use); USES (Uses)
(molybdenum and; ESR investigations of waste gas nitrogen oxide bonding and activation by surface complexes of **transition metal ion** catalysts)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 26 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:723993 HCAPLUS

DOCUMENT NUMBER: 131:357315

TITLE: Discharge of **metal ions** on a porous auxiliary electrode in molten electrolytes

AUTHOR(S): Omel'Chuk, A. A.; Zarubitskii, O. G.; Zakcharchenko, N. F.

CORPORATE SOURCE: Inst. Obshchei i Neorg. Khim. im. V. I. Vernadskogo, NAN Ukrainy, Kiev, Ukraine

SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1999), 65(5-6), 126-136

CODEN: UKZHAU; ISSN: 0041-6045

PUBLISHER: Institut Obshchei i Neorganicheskoi Khimii im. V. I. Vernadskogo NAN Ukrainy

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB The paper presents the results of studying non-ferrous metal transfer from the anode to the cathode through a porous auxiliary electrode. The porous auxiliary electrode is made of a conducting carbon material permeable to molten salts and impermeable to molten metals. It was found that discharge of **metal ions** on the cathode side of an

auxiliary electrode is observed only when the voltage drop across this electrode is higher than or equal to the **decomposition** voltage of the molten electrolyte. It was found that under combined transfer of some **metal ions** the **metals** with more electropos. potentials are discharged preferably on the cathode side of auxiliary electrode. Processes on the anode side of auxiliary electrode are dependent on the nature of the metal being transferred, the electrolysis duration and the potential obtained. The electrode can be used in electrochem. processes for heavy non-ferrous metal purification

IT 7631-86-9, Silica, uses
 RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
 (felt; use in electrolytic cell with discharge of **metal ions** on porous auxiliary electrode in molten electrolytes)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

L68 ANSWER 27 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:683082 HCAPLUS

DOCUMENT NUMBER: 131:276147

TITLE: Apparatus for indoor air deodorization by using titania-based photocatalysts

INVENTOR(S): Nakajima, Takahiro

PATENT ASSIGNEE(S): Matsushita Seiko Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

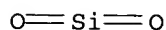
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11290697	A2	19991026	JP 1998-104463	19980415
PRIORITY APPLN. INFO.:			JP 1998-104463	19980415

AB Indoor air is deodorized by oxidative **decomposition** under UV irradiation at wavelength 400-800 nm in a catalytic reactor comprising a fixed bed of titania-based photolysis catalysts doped with ≥ 1 transition metals. The transition metal dopants, such as Cr, V, Cu, Fe, Ag, Pd and Mn are preferably sputtered on titania inside a vacuum chamber comprising means for forming the metal plasma, and means for doping titania with the **transition metal ions** under high energy at ≥ 30 KeV and $\geq 1 \times 10^{15}$ ions/g titania in the chamber. The photolysis catalysts may be extruded with a binder and ≥ 1 adsorbent such as zeolites, activated carbon, silica gels, Al₂O₃, and/or SiO₂.

IT 7631-86-9, Silica, processes
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (adsorbents blended with transition metal-doped titania-based photocatalysts; apparatus for indoor air deodorization by using titania-based photocatalysts)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

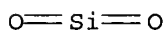


L68 ANSWER 28 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:630925 HCAPLUS
 DOCUMENT NUMBER: 131:262441
 TITLE: Adsorbents for hot water treatment
 INVENTOR(S): Okuyama, Kazuo
 PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11267499	A2	19991005	JP 1998-74530	19980323

PRIORITY APPLN. INFO.: JP 1998-74530 19980323
 AB The title adsorbent contains F-containing organic substances carried on surface of pores of inorg. porous bodies. The F-containing organic substance may be F-containing polymers. It is also claimed that a process for manufacture of the adsorbent by cooling after heating F-containing organic substance-containing inorg. porous bodies at a temperature higher than 50° lower temperature of the m.p. of the F-containing organic substance and lower than **decomposition** of the F-containing organic substance. The adsorbent is useful for removal of **metal ions** from cooling water for boilers and nuclear power plants.
 IT 7631-86-9, Snowtex N 30, uses
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (colloidal; adsorbent from F-containing polymer carried on porous body for purification of cooling water for boiler and nuclear power plant)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L68 ANSWER 29 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:545139 HCAPLUS
 DOCUMENT NUMBER: 131:190883
 TITLE: Method for chemical decontamination of radioactive species
 INVENTOR(S): Onda, Masami; Sakurai, Jiro; Yaita, Yumi; Sakai, Hitoshi; Hiraraki, Sei
 PATENT ASSIGNEE(S): Toshiba Corp., Japan; Toshiba Engineering Co.
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11231097	A2	19990827	JP 1998-34405	19980217

PRIORITY APPLN. INFO.: JP 1998-34405 19980217

AB Chemical decontamination of radioactive species in oxide layers are carried out by the oxidizing force of peroxodisulfuric acid solution, generated from aqueous solution of peroxodisulfate. Peroxodisulfuric acid solution is generated by

(a) exchange reaction of salt component of peroxodisulfate with H by cation exchange resin or (b) removal of salt component from peroxodisulfate by electrodialysis. The peroxodisulfate may be ≥ 1 selected from Na salt, K salt, and ammonium salt. The process may be carried out by using ammonium peroxodisulfate in process b, with recovering of ammonium ion followed by treatment in aqueous alkaline solution to

recover NH_3 in gas phase. The process may also be carried out by (1) generation of an aqueous peroxodisulfuric acid solution from an aqueous peroxodisulfate solution, (2) dissoln. of radioactive species-containing oxide layer in an aqueous solution by reduction with oxalic acid, (3) dissoln. of oxide layer in an aqueous peroxodisulfuric acid solution generated in process 1, (4) decomposition of excess reducing agent, and (5) separation of the oxidizing agent and metal ion dissolved from the oxide layer from the aqueous solution. The process is suitable for radioactive decontamination of pipes and apparatus in nuclear power plants.

IT 1309-37-1, Iron oxide (Fe_2O_3), processes
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (oxide layer; chemical decontamination of radioactive oxide layers formed in nuclear power plant apparatus by treatment with peroxodisulfuric acid)

RN 1309-37-1 HCAPLUS

CN Iron oxide (Fe_2O_3) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L68 ANSWER 30 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:484877 HCAPLUS

DOCUMENT NUMBER: 131:233955

TITLE: Acidic Character of Metal-Loaded Amorphous and Crystalline Silica-Aluminas Determined by XPS and Adsorption Calorimetry

AUTHOR(S): Auroux, Aline; Gervasini, Antonella; Guimon, Claude

CORPORATE SOURCE: Institut de Recherches sur la Catalyse, CNRS, Villeurbanne, F-69626, Fr.

SOURCE: Journal of Physical Chemistry B (1999), 103(34), 7195-7205

CODEN: JPCBFK; ISSN: 1089-5647

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The XPS technique in combination with microcalorimetry was used to picture the acid character of metal ion loaded zeolite and silica-alumina samples. Co, Cu, and Ni ions were loaded on ZSM-5 and $\text{SiO}_2\text{-Al}_2\text{O}_3$ (about 1 mmol/g) by three different procedures: ion exchange, impregnation, and solid-state ion-exchange. The samples prepared by ion exchange of the two matrixes presented high values of the 2 $p_{3/2}$ XPS bands of the metal ions, indicating the occurrence of charge transfer from the ions to the support matrix. This permitted the stabilization of the metal phases as isolated ions rather than as oxide clusters. Microcalorimetric expts. of ammonia adsorption were performed in order to determine the number, strength (i.e.,

adsorption enthalpy), and strength distribution of the acid sites on the samples and on the relevant matrixes. The N 1s XPS lines of ammonia adsorbed on the surfaces were **decomposed** into two component peaks, assigned to Bronsted (average value of BE, 402.2 eV) and Lewis (average value

of

BE, 400.4 eV) acid sites. The relative intensities of the two peak components were measured for the quant. determination of Bronsted and Lewis acid

site concns. Coupling the information from adsorption calorimetry and XPS spectroscopy of N 1s adsorbed lines, the absolute nos. of Bronsted and Lewis acid sites on each sample were determined. The two support matrixes were protonic acids (65 and 60% of Bronsted acid sites for ZSM-5 and SiO₂-Al₂O₃, resp.), and the acidity of ZSM-5 was greater than that of SiO₂-Al₂O₃ considering both the number of total acid sites and the acid strength. The presence of **metal ions** deposited on the two matrixes deeply changed the resp. proportions of Bronsted and Lewis sites. A huge increase in the Lewis acid site population of the ZSM-5-based samples (70, 85, and 90% of Lewis sites for the samples containing Co, Cu, and Ni, resp.) and of the SiO₂-Al₂O₃-based samples prepared by ion exchange (55, 60, and 70% of Lewis sites for the samples containing Co, Cu, and Ni, resp.) was observed.

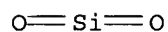
IT 7631-86-9, Silica, properties

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process).

(acidic characteristics of ZSM-5 and SiO₂-Al₂O₃ loaded with Co, Cu, and Ni ions studied by XPS and adsorption calorimetry of NH₃)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 84 THERE ARE 84 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 31 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:423253 HCAPLUS

DOCUMENT NUMBER: 131:176230

TITLE: Water-soluble **organophosphorus** reagents for mineralization of heavy metals

AUTHOR(S): Nash, Kenneth L.; Morss, Lester R.; Jensen, Mark P.; Appelman, Evan H.; Schmidt, Mark A.; Friedrich, Sarah R.; Redko, Mikhail; Hines, John J.

CORPORATE SOURCE: Chemistry Division, Argonne National Laboratory, Argonne, IL, 60439-4831, USA

SOURCE: Metal Separation Technologies Beyond 2000: Integrating Novel Chemistry with Processing, Proceedings of a Symposium, Kahuku, Hawaii, June 13-18, 1999 (1999), 45-56. Editor(s): Liddell, KNonna C. Minerals, Metals & Materials Society: Warrendale, Pa. CODEN: 67WDA6

DOCUMENT TYPE: Conference

LANGUAGE: English

AB The control of solubility of waste actinide ions by conversion to highly insol. mineral phases was demonstrated in the laboratory. Actinide **metal ions** are removed from **neutral** pH solns. by a combined ion exchange-**decomposition**-mineralization process based on the application of the naturally-occurring hydrolytically unstable polyphosphate organic compound phytic acid.

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 32 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:256774 HCAPLUS

DOCUMENT NUMBER: 131:25613

TITLE: Photocatalysis on titanium oxide catalysts. Approaches in achieving highly efficient reactions and realizing the use of visible light

AUTHOR(S): Anpo, Masakazu

CORPORATE SOURCE: Department of Applied Chemistry, Osaka Prefecture University, Osaka, 593, Japan

SOURCE: Catalysis Surveys from Japan (1997), 1(2), 169-179

CODEN: CSURFY; ISSN: 1384-6574

PUBLISHER: Baltzer Science Publishers

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB Photocatalytic activities of Ti-based photocatalysts were studied for different reactions. The reactivity of powdered TiO₂ is dramatically enhanced by the addition of small amts. of Pt which initiates an effective charge separation of the photoinduced electrons and holes. The highly dispersed titanium oxide species prepared and encapsulated within the zeolite cavities as well as into the SiO₂ matrixes exhibit high photocatalytic activity due to the high reactivities of their charge transfer excited states. With regard to the use of visible light, ion implantation of metal ions such as Cr or V into powdered TiO₂ catalysts has been found to modify the electronic state of TiO₂, resulting in the shift of the absorption band to longer wavelength regions, i.e., into the visible light region. The extent of the shift strongly depends on the type and concentration of the implanted metal. The present study focuses on the preparation of the photocatalysts, a detailed characterization of the active sites and their dynamics, the direct detection of the reaction intermediate species, as well as a clarification of the mechanisms behind the observed photocatalytic reactions at the mol. level. This work significantly contributes to advances in the design of photocatalysts which will be able to operate efficiently and effectively not only under UV irradiation but, most ideally, under visible light. A review with 58 refs.

IT 7631-86-9, Silica, properties

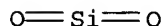
RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process);

PRP (Properties); PROC (Process); USES (Uses)

(photocatalytic activity of different titania catalysts and design of photocatalysts for visible light induced reactions)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 71 THERE ARE 71 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 33 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:199649 HCAPLUS

DOCUMENT NUMBER: 130:242104

TITLE: Method for treatment of wastewater by catalytic oxidation with scale control using chelate

INVENTOR(S): Miyake, Junichi; Shiota, Yusuke

PATENT ASSIGNEE(S): Nippon Shokubai Kagaku Kogyo Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11077067	A2	19990323	JP 1997-241327	19970905
PRIORITY APPLN. INFO.:			JP 1997-241327	19970905

AB The method is carried out by oxidation and **decomposition** of wastewater containing aluminum; alkaline earth **metal**; and heavy **metal ions**, in the presence of solid catalyst (e.g., Fe₂O₃-ZrO₂-PdO) and chelate agent (e.g., EDTA) for removing COD and nitrogen components with scale control.

IT **1309-37-1**, Ferric oxide, uses
 RL: CAT (Catalyst use); USES (Uses)
 (method for treatment of wastewater by catalytic oxidation with scale control using chelate)

RN 1309-37-1 HCAPLUS
 CN Iron oxide (Fe₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L68 ANSWER 34 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:193465 HCAPLUS

DOCUMENT NUMBER: 131:23482

TITLE: New method for monitoring the reaction of glass-ionomer cement: a spectroscopic study of the effect of polyacid structure on the **decomposition** of calcium aluminosilicate glasses

AUTHOR(S): Ouyang, Zheng; Sneckenberger, Sharon K.; Kao, Elizabeth C.; Culbertson, Bill M.; Jagodzinski, Paul W.

CORPORATE SOURCE: Department of Chemistry, West Virginia University, Morgantown, WV, 26506, USA

SOURCE: Applied Spectroscopy (1999), 53(3), 297-301

CODEN: APSPA4; ISSN: 0003-7028

PUBLISHER: Society for Applied Spectroscopy

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A method was developed permitting monitoring of the reaction of basic glass powder with various polyacids during the formation of glass-ionomer dental cements. **Decomposition** of the Ca aluminosilicate glass is followed via laser-induced emission signals from trace elements introduced into the powder with the Al₂O₃ component or from imperfections in the glass matrix. The method is significantly easier than previously reported methods and does not require the reaction to be quenched. The change in intensity of the emission bands was correlated to the extent of branching in the side chains of 7 polyacids, indicating that the structure of the polyacid affects the rate of **decomposition** of the glass powder. The polyacids with longer side chains and more branching extract **metal ions** from the glass powder more efficiently than the conventional polyacids that have reactive carboxylic groups attached uniformly and directly on the polymer backbone.

IT **7631-86-9**, Silica, biological studies

RL: PRP (Properties); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(spectroscopic study of effect of polyacid structure on the
decomposition of calcium aluminosilicate glasses in monitoring
reaction of glass ionomer dental cements)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 35 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:89263 HCAPLUS

DOCUMENT NUMBER: 130:267076

TITLE: A theoretical study of the dehydration and the
dehydrogenation processes of alcohols on metal oxides
using MOPAC

AUTHOR(S): Shinohara, Yuji; Nakajima, Tsuyoshi; Suzuki, Satoshi

CORPORATE SOURCE: Grad. Sch. of Sci. and Technol., Shinshu Univ.,
Nagano-shi, 380-8553, Japan

SOURCE: THEOCHEM (1999), 460, 231-244
CODEN: THEODJ; ISSN: 0166-1280

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Using a semi-empirical MO method, PM3, and Me2CHOH as an example, the
dehydration and dehydrogenation processes of alcs. on oxide catalysts were
studied. The catalysts studied were Al2O3, SiO2, ZnO and CdO, whose
reaction selectivities were exptl. determined. The usual models consisting of a
surface metal ion, several oxide ions and an
isopropoxy group were used in calcs. For the dehydration, heats of
formation of the models were calculated at each point of the process where the
distance between a β -H atom of the group and a basic site (i.e., an O
atom of the group or a surface oxide ion) or a metal
ion was gradually shortened, or where the length of the C α -O
bond of the group was gradually increased. A reasonable dehydration
mechanism was estimated by comparing activation energies calculated from the
transitions of the heats of formation. The most probable dehydrogenation
mechanism was also estimated in a similar way by gradually making an α -H
atom close to a surface oxide ion, the metal
ion or a surface proton. The dehydration proceeds via scission of
the C α -O bond of the group after its O atom was attacked by some
electrophile on the surface, and the dehydrogenation proceeds via a
mechanism in which an α -H atom of the group was extracted by the
metal ion. Based on this dehydration mechanism, alkoxy
groups generated by adsorption of primary, secondary and tertiary alcs. on
SiO2 were calculated in order to estimate the activation energies of their
decomps. The order of the energies agreed well with that of the
decomposition rates exptl. determined by Kitahara. This agreement gives
support to the validity of the mechanism deduced for the dehydration of
alc.

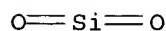
IT 7631-86-9, Silica, uses

RL: CAT (Catalyst use); USES (Uses)

(theor. study of dehydration and dehydrogenation processes of alcs. on
metal oxides by PM3 MO method)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 36 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:384246 HCAPLUS

DOCUMENT NUMBER: 129:20071

TITLE: The characterization of the ferrite-potassium oxide catalyst with their irons substituted by **transition metal ions** in the alcoxide method

AUTHOR(S): Miyakoshi, Akihiko; Sakai, Takaaki

CORPORATE SOURCE: Japan

SOURCE: Asahikawa Kogyo Koto Senmon Gakko Kenkyu Hobun (1998), 35, 53-61

CODEN: AKKHDA; ISSN: 0389-9306

PUBLISHER: Asahikawa Kogyo Koto Senmon Gakko

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB Ferrite-potassium oxide catalysts with their irons substituted by **transition metal ions** (Mn, Co, Ni, Cu, Zn) were prepared in the alcoxide method to study their structures as well as their activities for the dehydrogenation of ethylbenzene into styrene. The Mn-substituted ferrite-potassium oxide catalyst was most effective for the dehydrogenation, and the catalytic activities decreased in the following order: Mn > Zn > non-substitution > Co > Cu > Ni. The addition of the Mn ions also was more effective for suppressing the deposition of carbonaceous materials over the catalyst than that of the other ions. Concerning the structures, it was observed that the Ni-, Cu-, and Zn-substituted ferrite catalysts had their spinel phase **decomposed** after the reaction. However, very little **decomposition** was observed with the Mn- and Co-substituted catalysts. The reasons the addition of the Mn ion was most effective for the dehydrogenation are assumed to be: (1) The Fe ions in the iron oxide structure can easily be substituted by Mn ions, and the substitution allows the spinel phase to have a more stable structure. (2) The acidity of the Mn-substituted catalyst is smaller than that of the non-substitution catalyst. Hence, the former can help the dehydrogenation proceed more effectively.

IT 1309-37-1, Iron oxide(Fe₂O₃), uses

RL: CAT (Catalyst use); PRP (Properties); USES (Uses)

(characterization of ferrite-potassium oxide catalyst with iron substituted by **transition metal ions** in alcoxide method)

RN 1309-37-1 HCAPLUS

CN Iron oxide (Fe₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L68 ANSWER 37 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:368944 HCAPLUS

DOCUMENT NUMBER: 129:101108

TITLE: Actinide immobilization in the subsurface environment by in-situ treatment with a hydrolytically unstable **organophosphorus** complexant: uranyl uptake by calcium phytate

AUTHOR(S): Nash, K. L.; Jensen, M. P.; Schmidt, M. A.

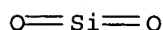
CORPORATE SOURCE: Chemistry Division, Argonne National Laboratory, 9700

SOURCE: S. Cass Ave., Argonne, IL, 60439-4831, USA
 Journal of Alloys and Compounds (1998), 271-273,
 257-261
 CODEN: JALCEU; ISSN: 0925-8388
 PUBLISHER: Elsevier Science S.A.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB An attractive approach to decreasing the probability of actinide migration in the subsurface is to transform the ions into a less mobile form by remote treatment. The authors have under development a process that relies on a polyfunctional **organophosphorus** complexant to sequester the mobile **metal ions** by complexation/cation exchange. The insol. complex subsequently **decomps.**, transforming the actinides into phosphate mineral forms as a thermodynamically stable isolation medium. The authors briefly describe the process with focus on the cation-exchange behavior of the Ca salt of the **organophosphorus** sequestrant.
 REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 38 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1998:352043 HCAPLUS
 DOCUMENT NUMBER: 129:19484
 TITLE: Water purifying method and water purifying system employing aerobic bacteria
 INVENTOR(S): Noda, Sakae
 PATENT ASSIGNEE(S): Noda, Sakae, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10146593	A2	19980602	JP 1996-323460	19961118
PRIORITY APPLN. INFO.:			JP 1996-323460	19961118

AB This method is carried out by adding porous active bodies, which provide **metal ions** and radiate electromagnetic waves and far IR rays, to a contaminated water area to **decompose** organic matter in the water by redox function of the **metal ions** and electromagnetic waves and to promote aerobic bacteria propagation by far IR rays. This system comprises a water purifying layer made of the active bodies and is installed in a contaminated water area. The method and system are for purifying water of rivers, ponds and lakes, aquariums, etc. The active bodies may be natural minerals containing tourmaline-group minerals and having mineral composition of quartz, feldspars, mica, etc. Water is stably purified for a long duration by aerobic bacteria.
 IT 14808-60-7, Quartz, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (porous active body containing; water purifying method and system using porous natural mineral active body)
 RN 14808-60-7 HCAPLUS
 CN Quartz (SiO2) (9CI) (CA INDEX NAME)



L68 ANSWER 39 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:753584 HCAPLUS

DOCUMENT NUMBER: 128:134243

TITLE: Design of photocatalysts encapsulated within the zeolite framework and cavities for the **decomposition** of NO into N₂ and O₂ at normal temperature

AUTHOR(S): Anpo, Masakazu; Zhang, Shu Guo; Matsuoka, Masaya; Yamashita, Hiromi

CORPORATE SOURCE: Gakuen-cho, College of Engineering, Department of Applied Chemistry, Osaka Prefecture University, Sakai, Osaka 593, 1-1, Japan

SOURCE: Catalysis Today (1997), 39(3), 159-168

CODEN: CATTEA; ISSN: 0920-5861

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The design of photocatalysts encapsulated within the zeolite frameworks and cavities is the most promising approach in developing photocatalysts which will operate efficiently and effectively towards the purification of toxic agents such as NO_x and SO_x in the atmosphere. In the present study, the vanadium silicalite (VS-2) and Ag⁺/ZSM-5 catalysts were prepared by hydrothermal synthesis and ion-exchange, resp., and the in situ characterization of these catalysts and their photocatalytic reactivities for the **decomposition** of NO have been investigated using dynamic photoluminescence, XAFS (XANES, EXAFS), ESR, FT-IR, UV-VIS, solid-state NMR and XRD techniques along with an anal. of the reaction products. Results obtained with the VS-2 catalyst showed that vanadium oxide moieties are present within the zeolite framework as a 4-fold tetrahedrally coordinated vanadium oxide species having a terminal oxovanadium group (V[z.dbnd6]O). UV irradiation of the VS-2 catalyst in the presence of NO led to the photocatalytic **decomposition** of NO to form N₂, N₂O and O₂. On the other hand, it was found that the zeolite cavities can stabilize the Ag⁺ ions in an isolated state through their connection with two lattice oxygen anions of the zeolite (2-coordination geometry). These isolated Ag⁺ ions exhibit high photocatalytic reactivities for NO **decomposition** to form N₂, N₂O and NO₂. Dynamic studies of the excited state of these catalysts showed that the charge transfer from the excited state of the vanadium oxide species or Ag⁺ ions to NO plays a vital role in the initiation of the **decomposition** of NO into N and O. These findings have demonstrated that **metal oxide species and metal ions** included within the zeolite frameworks and cavities are strong candidates for new types of environmentally applicable photocatalysts.

IT 7631-86-9, Silica, uses

RL: CAT (Catalyst use); USES (Uses)

(design of photocatalysts encapsulated within zeolite framework and cavities for **decomposition** of NO into N₂ and O₂ at normal temperature)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

REFERENCE COUNT: 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 40 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:480682 HCAPLUS
 DOCUMENT NUMBER: 127:98960
 TITLE: Catalytic apparatus for deodorization-disinfection of
 odorous air in refrigerators
 INVENTOR(S): Ueno, Takahiro
 PATENT ASSIGNEE(S): Matsushita Refrigeration Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09135888	A2	19970527	JP 1995-296732	19951115
PRIORITY APPLN. INFO.:			JP 1995-296732	19951115

AB The apparatus comprises means for driving elec. fan to blow odorous air through a fixed bed of catalysts containing **transition metal ions**-exchanged zeolites, silica and active alumina on honeycomb composite oxide supports to disinfect and **decompose** odorous pollutants in refrigerator air, means for monitoring temperature and concns. of odorous air inside the refrigerators, and means for controlling the operation time of elec. fan based on the feedback signal from the monitors. The apparatus is durable and reduces operation cost.

IT 7631-86-9, Silica, uses
 RL: CAT (Catalyst use); USES (Uses)
 (on honeycomb composite oxide supports; catalytic apparatus for deodorization-disinfection of odorous air in refrigerators)

RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

L68 ANSWER 41 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1996:742316 HCAPLUS
 DOCUMENT NUMBER: 126:66540
 TITLE: Immobilization of actinides in geomedia by phosphate precipitation
 AUTHOR(S): Jensen, Mark P.; Nash, Kenneth L.; Morss, Lester R.; Appelman, Evan H.; Schmidt, Mark A.
 CORPORATE SOURCE: Chemistry Div., Argonne National Lab., Argonne, IL, 60439-4831, USA
 SOURCE: ACS Symposium Series (1996), 651(Humic and Fulvic Acids), 272-285
 CODEN: ACSMC8; ISSN: 0097-6156
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB A method is being developed to transform actinide ions in the near surface environment to less soluble, less reactive, thermodynamically stable phosphate minerals phases through application of **organophosphorus** complexants. These complexants **decompose** slowly, releasing phosphate to promote the formation of stable phosphate mineral phases, particularly with the more soluble trivalent, pentavalent, and hexavalent actinide ions. The complexant of choice, myo-inositol(hexakisphosphoric acid) or phytic acid, is a natural product widely used as a nutritional

supplement. Phytic acid **decomps.** slowly in the absence of microbiol. effects, crystalline phosphate minerals are formed as a consequence of its **decomposition**, and the formation of actinide (**lanthanide**) phosphates reduces the solubility of trivalent and hexavalent **metal ions** under environmental conditions.

L68 ANSWER 42 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:543601 HCAPLUS
 DOCUMENT NUMBER: 125:181346
 TITLE: Slurry-type photosensitive composition and display or imaging device using it
 INVENTOR(S): Gokochi, Tooru; Nakase, Makoto; Naito, Takuya
 PATENT ASSIGNEE(S): Tokyo Shibaura Electric Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 08146598	A2	19960607	JP 1994-281805	19941116
JP 3126607	B2	20010122		
US 5691101	A	19971125	US 1996-644395	19960509
US 38256	E	20030923	US 1999-448977	19991124
PRIORITY APPLN. INFO.:			JP 1994-43623	A 19940315
			JP 1994-281805	A 19941116
			US 1995-402358	B1 19950313
			US 1996-644395	A5 19960509

AB The composition comprises a photo-acid generating compound, ≥ 1 acid-crosslinkable or acid-**decomposable** resin, and a powder. The composition may contain a phosphor or a light-absorbing pigment. The composition is applied on a substrate, patternwise exposed, and heat-treated to form fine patterns of a phosphor for Braun tubes, or to form light-insulating fine patterns for imaging devices. The composition, free of bisazide or heavy **metal ion**, is nontoxic and shows high sensitivity and resolution. The devices are easy to manufacture by using the composition

IT **7631-86-9**, Silica, uses
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(slurry-type photosensitive composition)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

L68 ANSWER 43 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:137812 HCAPLUS
 DOCUMENT NUMBER: 124:190162
 TITLE: Charged particle deposition of electrically insulating films
 INVENTOR(S): Puretz, Joseph
 PATENT ASSIGNEE(S): Fei Co., USA
 SOURCE: PCT Int. Appl., 24 pp.

DOCUMENT TYPE: CODEN: PIXXD2
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: English
 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9600803	A1	19960111	WO 1995-US8210	19950627
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9529140	A1	19960125	AU 1995-29140	19950627
US 5827786	A	19981027	US 1997-853229	19970428
PRIORITY APPLN. INFO.:			US 1994-267189	A 19940628
			WO 1995-US8210	W 19950627
AB	In forming an insulating film upon a selected region of a sample, a gaseous vapor is directed over the selected region for depositing a compound of the gaseous vapor containing elements of the insulating film. A charged particle beam is directed toward the selected region to decompose the deposited compound and provide the desired insulating film.			
IT	7631-86-9, Silica, processes RL: PEP (Physical, engineering or chemical process); PROC (Process) (charged particle deposition of films of)			
RN	7631-86-9 HCAPLUS			
CN	Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)			

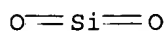
O=Si=O

L68 ANSWER 44 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1995:889222 HCAPLUS
 DOCUMENT NUMBER: 124:18111
 TITLE: Rare earth ions as heterogeneous photocatalysts for the **decomposition** of dinitrogen monoxide (N2O)
 AUTHOR(S): Ebitani, Kohki; Hirano, Yoshiaki; Morikawa, Akira
 CORPORATE SOURCE: Fac. Eng., Tokyo Inst. Technol., Tokyo, 152, Japan
 SOURCE: Journal of Catalysis (1995), 157(1), 262-5
 CODEN: JCTLA5; ISSN: 0021-9517
 PUBLISHER: Academic
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Heterogeneous photocatalysis of rare earth cations in the **decompn** of dinitrogen monoxide into nitrogen and oxygen mols. It is shown that Pr-ion exchanged mordenite and alumina- and silica-alumina supported Pr are the most effective catalyst for N2O photolysis.
 IT 1344-28-1, Alumina, uses 7631-86-9D, Silica, ions, uses
 RL: CAT (Catalyst use); USES (Uses)
 (praseodymium ion-exchanged heterogeneous photocatalysts for **decomposition** of dinitrogen monoxide)
 RN 1344-28-1 HCAPLUS
 CN Aluminum oxide (Al2O3) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L68 ANSWER 45 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:574305 HCAPLUS

DOCUMENT NUMBER: 122:322020

TITLE: Establishment of a fully-automated HPLC analytic system for simazine, thiram and thiobencarb in tap water

AUTHOR(S): Kodama, Shuji; Matsunaga, Akinobu; Ohto, Mikiya; Yamamoto, Atsushi; Mizukami, Eiichi

CORPORATE SOURCE: Toyama Institute of Health, Toyama, 939-03, Japan

SOURCE: Kankyo Kagaku (1995), 5(1), 81-6

CODEN: KKAGEY; ISSN: 0917-2408

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB A fully-automated HPLC system to simultaneously determine 3 **pesticides**, simazine, thiram and thiobencarb, in tap water was developed. A test tap water was made up in a solution of 2 mM sodium ascorbate and 1 mM EDTA to prevent **decomposition** of thiram and thiobencarb from residual Cl and **metal ions**. Three mL of tap water injected by the auto sampler passed through an enrichment column, where the **pesticides** were quant. trapped. The **pesticides** were then flushed from the column onto an analytic column, were separated, and measured by the UV detector. Recoveries of simazine (0.3 µg/L), thiram (0.6 µg/L) and thiobencarb (1.0 µg/L) spikes in 7 tap water samples were 93-100, 92-98, and 81-88%, resp. It is possible to continuously analyze many samples within a 30-min. running time with the proposed system. Therefore, it is suggested that the anal. system is effective for daily assay of simazine, thiram, and thiobencarb in tap water as a screening method.

L68 ANSWER 46 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:326022 HCAPLUS

DOCUMENT NUMBER: 120:326022

TITLE: Conversion of vegetable waste into useful material by alkaline oxidation

INVENTOR(S): Skibida, Irina Petrovna; Sakharov, Andrei Mikhailovich; Sakharov, Alexei Mikhailovich

PATENT ASSIGNEE(S): Russia

SOURCE: PCT Int. Appl., 21 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Russian

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9315094	A1	19930805	WO 1992-RU18	19920129
W: CA, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
PRIORITY APPLN. INFO.:			WO 1992-RU18	19920129
AB Vegetable wastes, e.g., sawdust or corn, rice, or wheat seeds rendered				

incapable of germination by **pesticides**, are converted into products useful as glues, additives for drilling fluids, fireproofing agents, etc., by an environmentally safe process comprising oxidation by O in the presence of alkali and transition metal compds. **Metal ions** are optionally removed from oxidized products by cation exchangers. Bubbling O through a mixture of corn seeds [contaminated by 2 g/kg (Me₂NCH₂)₂S₂ **pesticide**] 250, CuSO₄·5H₂O 4, NaOH 60, and H₂O 2000 g at 75° for 2 h, adding 250 g corn seeds, and continuing the oxidation for 5 h gave a nontoxic (tested on mice) aqueous suspension containing

salts of (hydroxy)carboxylic, amino-, and hydroxyarom. acids (12% carboxy groups). The **pesticide** was **decomposed** after 15 min, and the product having viscosity of 8.0 cP at 75° and pH 9.5 and containing 25% solids and 3% insolubles was used as a drilling fluid additive.

IT 9003-35-4, Formaldehyde-phenol copolymer

RL: USES (Uses)

(binders containing oxidized waste wheat seeds and, for particleboards)

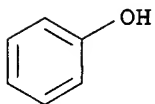
RN 9003-35-4 HCAPLUS

CN Phenol, polymer with formaldehyde (9CI) (CA INDEX NAME)

CM 1

CRN 108-95-2

CMF C6 H6 O



CM 2

CRN 50-00-0

CMF C H2 O

H₂C=O

IT 7440-50-8, Copper, miscellaneous

RL: CAT (Catalyst use); USES (Uses)

(catalysts, ion exchanger for removal of, from oxidized vegetable wastes)

RN 7440-50-8 HCAPLUS

CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

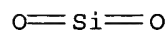
L68 ANSWER 47 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:22629 HCAPLUS

DOCUMENT NUMBER: 120:22629

TITLE: Sample **decomposition** with acids in sealed teflon bomb and one drop flame atomic absorption spectrometry

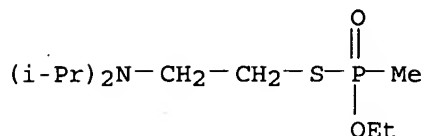
AUTHOR(S): Kojima, Isao
 CORPORATE SOURCE: Nagoya Inst. Technol., Nagoya, Japan
 SOURCE: Dojin News (1993), 66, 3-10
 CODEN: DONEEA; ISSN: 0385-1516
 DOCUMENT TYPE: Journal
 LANGUAGE: Japanese
 AB The title method is introduced using small sample volume injection (< 100 μ L). Solid sample is **decomposed** in a pressurized vessel, **metal ion** analytes are extracted from matrix. The method is applied to the trace metal determination in standard biol. and botanical samples and natural silica.
 IT 7631-86-9, Silica, analysis
 RL: ANST (Analytical study)
 (trace metal determination in, by sealed teflon bomb sample **decomposition** and one drop flame atomic absorption spectrometry)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L68 ANSWER 48 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1993:677814 HCAPLUS
 DOCUMENT NUMBER: 119:277814
 TITLE: **Metal-ion** catalyzed oxidation of a **G-agent** simulant by ozone
 AUTHOR(S): Leslie, D. R.; Ward, J. R.
 CORPORATE SOURCE: Chem. Res. Dev. Eng. Cent., Aberdeen Proving Ground, MD, USA
 SOURCE: Report (1992), CRDEC-TR-374; Order No. AD-A254351, 20 pp. Avail.: NTIS
 From: Gov. Rep. Announce. Index (U. S.) 1992, 92(24), Abstr. No. 271,358
 DOCUMENT TYPE: Report
 LANGUAGE: English
 AB Because of its ability to oxidize S, oxone has been shown to be a rapid decontaminant for mustard or VX. **G-agents**, such as sarin or soman, are difficult to oxidize, and all methods of decontaminating sarin or soman are based on hydrolysis. To determine if oxone might have utility as a general decontaminant, expts. were run to see if the ability of oxone to destroy **organophosphorus** esters could be enhanced with transition-metal catalysts. Hydrolysis of the **G-agent** simulant diiso-Pr methylphosphonate (DIMP) was promoted in oxone solution by the presence of such low-valent **metal ions** as Co(II), Cr(III), or Mn(II). The reaction is initiated by radical formation from **decomposition** of HO-SO₃. Radical chains may be terminated by dimerization of sulfate radical, other reactions forming O₂, or reduction of the radical to SO₄²⁻ by the low-valent **metal ion**. The radical can also reduce the oxidized **metal ion** back to the original low-valent state, thereby providing a path for turnover of the **metal ion**. The relatively slow rate and the potential for contaminants in field application that could react with the sulfate radicals make it unlikely that **metal ion** catalysis of oxone **decomposition** will prove to be a useful decontamination method.
 IT 50782-69-9, VX
 RL: PROC (Process)

(decontamination of, with oxone, metal catalyst in)

RN 50782-69-9 HCAPLUS

CN Phosphonothioic acid, methyl-, S-[2-[bis(1-methylethyl)amino]ethyl]
O-ethyl ester (9CI) (CA INDEX NAME)

L68 ANSWER 49 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:452013 HCAPLUS

DOCUMENT NUMBER: 115:52013

TITLE: Coating materials having deodorant, antimicrobial,
far-IR-radiating, acid corrosion-resistant, and
antistatic properties

INVENTOR(S): Yoshizawa, Noryasu

PATENT ASSIGNEE(S): Ain Corp., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

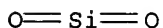
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03081375	A2	19910405	JP 1989-219339	19890825
PRIORITY APPLN. INFO.:			JP 1989-219339	19890825

AB The title materials, useful for building interiors and packaging films, contain metal oxides having bonding, far-IR-radiating, and antistatic properties, resinous polymers having bonding properties, and ceramic additives comprising inorg. fillers having antimicrobial, gas-adsorbing, and gas-decomposing properties (e.g., SiO₂, Al₂O₃, TiO₂, metal ions, zeolite, and/or modified polypropene).

IT 7631-86-9, Silica, uses and miscellaneous
RL: USES (Uses)
(fillers, in functional coatings)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L68 ANSWER 50 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:446341 HCAPLUS

DOCUMENT NUMBER: 115:46341

TITLE: Manufacture of tobacco filters with deodorizing,
antibiotic, far-infrared radiation and antistatic
properties

INVENTOR(S): Yoshizawa, Noryasu

PATENT ASSIGNEE(S): Ain Corp., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

DOCUMENT TYPE: CODEN: JKXXAF
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: Japanese
 1
 PATENT INFORMATION:

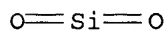
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03083571	A2	19910409	JP 1989-220477	19890829
PRIORITY APPLN. INFO.:			JP 1989-220477	19890829

AB The filter can be made by coating a filter which consists of various fibers, with a ceramic coating agent which consists of: (1) adhesive, far-IR irradiation and antistatic metal oxide (e.g. SiO₂, Al₂O₃, TiO₂) (2) adhesive resin (e.g. modified polypropylene), and (3) antibiotic, gas-absorbing, and gas-decomposing inorganic filler (e.g. metal ion, zeolite). The coating can be done by spraying, dipping, rolling, etc. Thus, a coating agent powder consisting of SiO₂ (as adhesive and far-IR irradiation agent), Al₂O₃ (as adhesive and antistatic agent), TiO₂ (as adhesive and deodorizing agent, modified polypropylene (As adhesive), Cu ion or Ag⁺ (as antibiotic and gas-decomposing agent), zeolite (Ca·2Al₂O₃·5SiO₂; as gas-absorbent) was dissolved in alc. and sprayed to acetate fiber filter (diagram of apparatus for coating is given), the antibiotic and deodorizing effects were demonstrated.

IT 7631-86-9, Silicon dioxide, biological studies
 RL: BIOL (Biological study)
 (tobacco filter containing)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L68 ANSWER 51 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:149892 HCAPLUS

DOCUMENT NUMBER: 114:149892

TITLE: Coating photoactive metal oxides onto substrates and their use in water purification

INVENTOR(S): Matthews, Ralph William

PATENT ASSIGNEE(S): Commonwealth Scientific and Industrial Research Organization, Australia

SOURCE: Pat. Specif. (Aust.), 39 pp.
 CODEN: ALXXAP

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
AU 600289	B2	19900809	AU 1987-76028	19860722
AU 8776028	A1	19880128		
PRIORITY APPLN. INFO.:			AU 1986-7074	A 19860722

AB The process comprises placing the substrate in contact with a liquid containing the metal oxide particles, and evaporating the liquid from the substrate followed by drying to form an adherent metal oxide film. The resulting product is photocatalytically active and can be used for decomposing organic

materials and removing heavy **metal ions** and/or noble
metal ions in water.

IT 9002-84-0, Teflon

RL: OCCU (Occurrence)

(catalyst substrate containing, in photolysis catalyst, for water
purification)

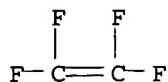
RN 9002-84-0 HCAPLUS

CN Ethene, tetrafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116-14-3

CMF C2 F4



IT 1309-37-1, Ferric oxide, uses and miscellaneous

RL: CAT (Catalyst use); USES (Uses)

(photolysis catalyst containing, for water purification)

RN 1309-37-1 HCAPLUS

CN Iron oxide (Fe2O3) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L68 ANSWER 52 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1990:177767 HCAPLUS

DOCUMENT NUMBER: 112:177767

TITLE: Methane oxidation activities of **lanthanum**
-containing oxides

AUTHOR(S): Imai, Hisao; Tagawa, Tomohiko

CORPORATE SOURCE: Fac. Eng., Nagoya Univ., Nagoya, Japan

SOURCE: Report of the Research Laboratory of Engineering
Materials, Tokyo Institute of Technology (1989), 14,
33-8

CODEN: RRLTDF; ISSN: 0385-3799

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The oxidative coupling of methane was studied on various **lanthanum**
-containing oxides prepared by the mist **decomposition** method. Among the
mixed oxides, LaAlO3 showed the highest catalytic activity. The addition of
a **transition metal ion** decreased both
activity and selectivity for C2 hydrocarbon formation. The addition of a
divalent ion also decreased both the activity and the selectivity. A
study on the effect of pretreatment temperature revealed that the active
samples

were amorphous and that the growth of the crystalline perovskite phase
decreased the activity for C2 hydrocarbon formation greatly.

IT 7631-86-9, Silica, uses and miscellaneous

RL: CAT (Catalyst use); USES (Uses)

(catalysts, for oxidative coupling reaction of methane, activity and
selectivity of)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

L68 ANSWER 53 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1981:66207 HCAPLUS

DOCUMENT NUMBER: 94:66207

TITLE: Polymerization of methyl methacrylate initiated by the redox system Manganese(3+)ion/thioglycollic acid

AUTHOR(S): Samal, R. K.; Suryanarayan, G. V.; Panda, G.; Das, D. P.; Nayak, M. C.

CORPORATE SOURCE: Dep. Chem., Ravenshaw Coll., Cuttack, 753003, India

SOURCE: Journal of Applied Polymer Science (1981), 26(1), 41-8
CODEN: JAPNAB; ISSN: 0021-8995

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The kinetics of aqueous polymerization of Me methacrylate [80-62-6] initiated by the

redox system Mn³⁺-thioglycollic acid (I) [68-11-1] was studied in H₂SO₄ at 35-50°, and the polymerization rates and Mn³⁺ disappearance, etc., were measured. Water-miscible organic solvents and complexing agents inhibited the polymerization, whereas SiO₂ enhanced the rate of polymerization A mechanism wassuggested involving the formation of Mn³⁺-I complex, whose **decompn** yields the initiating free radical, with polymerization being terminated by the
metal ion.

IT 7631-86-9, uses and miscellaneous

RL: CAT (Catalyst use); USES (Uses)

(catalysts, for polymerization of Me methacrylate in presence of manganese ion-thioglycollic acid mixts.)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

L68 ANSWER 54 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1981:49737 HCAPLUS

DOCUMENT NUMBER: 94:49737

TITLE: Studies on vacuum pyrolysis of ammonium perchlorate and ammonium perchlorate/polystyrene propellant in the presence of transition metal oxides

AUTHOR(S): Kishore, K.; Verneker, V. R. Pai; Pitchaiah, K.

CORPORATE SOURCE: Dep. Inorg. Phys. Chem., Indian Inst. Sci., Bangalore, 560 012, India

SOURCE: Journal of Analytical and Applied Pyrolysis (1980), 2(1), 45-52

CODEN: JAAPDD; ISSN: 0165-2370

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Vacuum pyrolysis of NH₄ClO₄ and NH₄ClO₄-polystyrene [9003-53-6] propellant was studied by DTA to observe the effect of transition metal oxides on sublimation. Sublimation and **decomposition** being competitive processes, their proportions depend on the pressure of the pyrolysis chamber. The literature data on the enthalpies for complete **decomposition** and complete sublimation are used together with DTA area

measurements to calculate the extents of sublimation and **decomposition** for NH_4ClO_4 and the propellant system. The effect of the **metal ions** on the extent and rate of sublimation depends on their nature. For NH_4ClO_4 , the extent of sublimation increases with a decrease in particle size. For the propellants, the powder sublimates more readily than the bulk material, but in the presence of **metal ions** the bulk material sublimates more readily than the powder. To substantiate this finding, the effect of MnO_2 on NH_4ClO_4 sublimation as a function of particle size was examined; the extent of sublimation decreases as the particle size decreases.

IT 1309-37-1, uses and miscellaneous

RL: USES (Uses)

(in pyrolysis, of ammonium perchlorate and perchlorate-polystyrene propellant)

RN 1309-37-1 HCAPLUS

CN Iron oxide (Fe_2O_3) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L68 ANSWER 55 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1977:543734 HCAPLUS

DOCUMENT NUMBER: 87:143734

TITLE: Studies of EPR spectra of diphenylamine-stabilized nitrocellulose and nitrocellulose powder

AUTHOR(S): Mrzewinski, Tadeusz

CORPORATE SOURCE: Pol.

SOURCE: Biuletyn Wojskowej Akademii Technicznej imienia Jaroslawa Dabrowskiego (1977), 26(6), 79-89
CODEN: BWATAK; ISSN: 0366-4988

DOCUMENT TYPE: Journal

LANGUAGE: Polish

AB EPR from free radicals and **metal ion** impurities was detected. Heating changed the shape of the free-radical spectra and the value of the gyromagnetic ratio g . The occurrence of the EPR is explained by a reaction between Ph_2NH and nitrocellulose and/or its **decompn** products. The free-radical mechanism of the reaction of Ph_2NH is discussed.

IT 9004-70-0

RL: PRP (Properties)

(EPR of diphenylamine-stabilized)

RN 9004-70-0 HCAPLUS

CN Cellulose, nitrate (9CI) (CA INDEX NAME)

CM 1

CRN 9004-34-6

CMF Unspecified

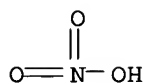
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7697-37-2

CMF H N O3



L68 ANSWER 56 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1976:410063 HCAPLUS
 DOCUMENT NUMBER: 85:10063
 TITLE: Regeneration of waste silica-alumina catalyst used for
 treatment of sewage and waste water
 INVENTOR(S): Sanga, Seiji; Nishimura, Yoichi
 PATENT ASSIGNEE(S): Shokubai Kasei Kogyo Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 50153784	A2	19751211	JP 1974-61861	19740603
JP 52042431	B4	19771024		

PRIORITY APPLN. INFO.: JP 1974-61861 A 19740603

AB The SiO₂-Al₂O₃ waste catalyst, contaminated by NH₃-N, is heated at 100-700° and(or) treated with aqueous NaCl, optionally under alkaline conditions. Thus, the waste catalyst from hydrocarbon **decomposition** was heated with 4N NaOH at 100° for 4 hr and added (0.5 g) to 1 l. waste water containing 75 ppm NH₃ N; after 1 day 85% of the NH₃ N was removed. The SiO₂-Al₂O₃ was regenerated by heating 30 min at 500° and used again to remove 87% NH₃ N, and the process was repeated to remove 90, 78, and 65% NH₃ N after each use. The material also adsorbed heavy **metal ions**, and only Cr was leached out after the heat treatment.

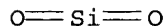
IT 7631-86-9, uses and miscellaneous

RL: USES (Uses)

(catalyst waste containing alumina and, in waste water treatment, regeneration of, by heat treatment)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L68 ANSWER 57 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1970:410446 HCAPLUS
 DOCUMENT NUMBER: 73:10446
 TITLE: Infrared method for the rapid detection of
 dealkylation products in the adducts of metal salts
 with **neutral organophosphoryl**
 esters
 AUTHOR(S): Karayannis, Nicholas M.; Mikulski, C. M.; Pytlewski,
 Louis L.; Labes, Mortimer M.
 CORPORATE SOURCE: Dep. of Chem., Drexel Inst. of Technol., Philadelphia,
 PA, USA
 SOURCE: Fresenius' Zeitschrift fuer Analytische Chemie (1970),

249(6), 380-1

CODEN: ZACFAU; ISSN: 0016-1152

DOCUMENT TYPE:

Journal

LANGUAGE:

English

AB Complexes of the type $M(RR'PO_2)_n$ (where R, R' = alkyl, alkoxy, aryl, etc.) as **decomposition** products in the adducts of metal salts with **neutral** phosphate, phosphonate, and phosphinate esters were detected by the occurrence of a strong absorption band at 1050-100 cm^{-1} . If the anionic group, e.g. ClO_4^- , exhibits ir absorption in this region, the **decomposition** products were detected by the medium to weak absorption at approx. 1730 cm^{-1} . The sensitivity of the method allowed the detection of at least 4-5% and possibly lower content of **decompn** products in the adducts. It may be used to investigate whether **neutral organophosphoryl** compds. undergo any **decomposition** during the extraction of metal ions.

L68 ANSWER 58 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1967:64900 HCAPLUS

DOCUMENT NUMBER: 66:64900

TITLE:

Use of alkali metal poisons in the elucidation of cracking catalyzed by silica-alumina

AUTHOR(S):

Maatman, Russell W.; Leenstra, D. L.; Leenstra, A.; Blankespoor, Ronald L.; Rubingh, D. N.

CORPORATE SOURCE:

Dordt Coll., Sioux Center, IA, USA

SOURCE:

Journal of Catalysis (1967), 7(1), 1-17

CODEN: JCTLA5; ISSN: 0021-9517

DOCUMENT TYPE:

Journal

LANGUAGE:

English

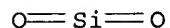
AB Information concerning the silica-alumina sites active in cumene cracking was obtained from an analysis of results of cumene cracking with catalysts with and without alkali metal poison. A combination of kinetic studies with absolute rate theory suggests there are 107-108 sites cm^{-2} in a com. cogelled silica-alumina catalyst, several orders of magnitude less than is usually supposed. The data are consistent with the assumption that active sites are associated with a very small fraction of the surface Al which exchanges with alkali **metal ion**. Different alkali **metal** salts vary in their ion-exchanging ability, but for the same amount of removed Al these salts poison the catalyst to the same extent. KA/KI , where KA and KI are the equilibrium quotients for ion exchange with active and inactive Al, resp., is greater than unity, is approx. constant over the whole concentration range, and is approx. independent of salt. KI decreases with increasing amts. of exchange. These results suggest that under cracking conditions the active sites are a very narrow band of the most energetic sites in a spectrum of sites (all associated with Al) of varying energies, and that this situation is parallel to the ion exchange reaction. Acid both removes Al and activates some of the remaining Al. The catalytic properties of several silica-alumina catalysts impregnated by other methods or compds. confirm this model. To validate further the kinetic scheme used to count active sites, studies on the effect of temperature and poison in the reactor charge are reported. It is shown that there cannot be a temperature of maximum rate in catalyzed unimol. **decomposition** unless the heat of desorption from active sites is greater than the cracking-step heat of activation of the adsorbed mol. This condition is not met in the cumene-silica-alumina system. 33 references.

IT 7631-86-9, uses and miscellaneous

RL: CAT (Catalyst use); USES (Uses)

(catalysts from aluminum oxide and, for cracking of cumene in presence of alkali metal salts)

RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L68 ANSWER 59 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1961:97138 HCAPLUS

DOCUMENT NUMBER: 55:97138

ORIGINAL REFERENCE NO.: 55:18262b-i

TITLE: Radiolysis in the adsorbed state

AUTHOR(S): Sutherland, J. W.; Allen, A. O.

CORPORATE SOURCE: Brookhaven Natl. Lab., Upton, NY

SOURCE: Large Radiation Sources in Ind., Proc. Conf., Warsaw, 1959 (1960), 2, 3-12, discussion 13-15

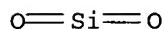
DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. CA 52, 7877f. Radiolysis of n-C₅H₁₂ (I), adsorbed on mineral solids, yielded products different from those by radiolysis of liquid I. The products obtained depended on the solid used; these were 14-20 mesh silica gel (II), synthetic zeolites (III) and (IV), analyzing dry to approx. Na₂O.Al₂O₃.2.67 SiO₂ and Na₂O.3CaO.4Al₂O₃.8SiO₂, resp., and ion-exchange products (V), (VI), (VII) of III with Ca, Co, and Mn, resp. V-VII were prepared by stirring 30 g. of III for 2 days at room temperature with 100 ml of Ca[or Co or Mn]Cl₂ solution, containing approx. 100% excess of the bivalent **metal ion** to be exchanged, and washing the product 6 times with H₂O. The ratios of Ca, Co, or Mn to Na were: V, 0.94; VI, 0.60; and VII, 0.63, equivalent to a Na replacement of 65, 55, and 56%, resp. The observed **decomps.** occurred only when I and the solid were irradiated together; blank runs, adsorbing I on the solid and heating to 400°, gave negligible **decomposition** even if the solid had been previously irradiated. Four g. of the solid was degassed in vacuo for 4-5 days at 420-50° until the residual pressure was less than 2 + 10⁻³ mm. Hg; a weighed amount of I was distilled onto the solid, the tube sealed and irradiated with Co⁶⁰ γ-rays at 25°, at rates of 0.25-0.3 megar./hr., to give doses of 17 megar. for II and 21-6 megar. for the other solids. After irradiation, the tube was heated for 2 hrs. at 400°. At least 95% of the permanent gases (mainly CH₄ and H) produced were evolved below 200°. The maximum **decomposition** of I was 3.5%. The liquid products, sampled at -78°, were analyzed by gas-liquid partition chromatography, using a Perkin-Elmer Model 154 Vapor Fractometer with a 4-m.-long polypropylene glycol packed-column. This equipment was calibrated by using known quantities of various hydrocarbons. The results were given in GT units, GT being the number of mols. of product formed per 100 e.v. of energy absorbed by solid plus I, and were plotted as GT vs. the electron fraction of I in the solid-plus-I mixture. Yields of H and CH₄, using II and VI, were much higher than those for liquid I, or when using the other solids. With II, there were high yields of branched-chain products, iso-C₅H₁₂ and iso-C₆H₁₄ at low ratios of I to II; the yields fell sharply when this ratio was increased. At 5.5 electron % I, yields of all saturated hydrocarbons were several times as high, whereas those of unsatd. products were less than those from liquid I alone. GT values were: H 1.40, CH₄ 0.032, C₂H₆ 0.056, C₃H₈ 0.056, n-C₄H₁₀ 0.0150, iso-C₄H₁₀ 0.0323, iso-C₅H₁₂ 0.374, iso-C₇H₁₆ 0.082, n-C₇H₁₆ 0.013, iso-C₈H₁₈ 0.074, n-C₈H₁₈ 0.011, iso-C₉H₂₀ 0.043, n-C₉H₂₀ 0.004, iso-C₁₀H₂₂ 0.625, n-C₁₀H₂₂ 0.103, C₂H₄, 0.0014, C₃H₆ 0.0033, 1-butene plus isobutene 0.0086, trans-2-butene 0.0036, cis-2-butene 0.0007, unsatd. C₅ and C₆, compds present but not determined. The total **decomposition** yields, using

III and VII, were almost independent of the amount of I present. The over-all material balances were poor; the poor reproducibility of **decomposition** yields, especially for H, were probably due to variations in the properties of the solids from sample to sample. The reactions reported were not due to the activation of the solid by the radiation to a form that could **decompose** I. No satisfactory mechanism was proposed to explain the results.

IT 7631-86-9, Silica
 (colloidal, pentane adsorbed on, γ -irradiation of)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L68 ANSWER 60 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1959:5288 HCAPLUS

DOCUMENT NUMBER: 53:5288

ORIGINAL REFERENCE NO.: 53:908d-h

TITLE: The adsorption theory of passivity and the Flade potential

AUTHOR(S): Uhlig, Herbert H.

CORPORATE SOURCE: Massachusetts Inst. of Technol., Cambridge

SOURCE: Zeitschrift fuer Elektrochemie und Angewandte
 Physikalische Chemie (1958), 62, 626-32
 CODEN: ZEAPAA; ISSN: 0372-8323

DOCUMENT TYPE: Journal

LANGUAGE: English

AB From quant. data reported by various investigators, U. concludes that the primary passive film on Fe has the following properties: 25-100 A. thick, equivalent to 0.01 coulomb/sq. cm., can oxidize CrO_2^- to CrO_4^{--} and follows the (Flade) potential relation $-0.58 + 0.0.58 \text{ pH (v.)}$. All these properties cannot be accounted for by any of the known oxides of Fe. In better accord with the facts is a proposed passive film composed of chemisorbed atomic and mol. O supplemented perhaps by OH and H_2O . The free energy of formation is calculated from potential data of Franck to be -29,900 cal./mole adsorbed O in agreement with independent data for gaseous O chemisorbed on Fe surfaces (-30,500 cal./mole adsorbed O). Thermodynamic calcns. show that the film is unstable, more so in acids than in alkalies. The same kind of film apparently forms on Cr-Fe alloys and on Cr. It is calculated that passivity for these metals is also unstable in acids or alkalies when **metal ions** or hydroxides are reaction products of the **decomposed** film. However, spontaneous formation of the adsorbed passive film can occur on exposure of Cr or >20% Cr-Fe alloys to H_2O , contrary to the situation for Fe or the low Cr-Fe alloys. It is possible to show that the passive film on Fe is able to oxidize CrO_2^- to CrO_4^{--} as observed, but that this reaction is not thermodynamically possible for the passive film on Cr or on >12% Cr-Fe alloys. A passive film of chemisorbed O fulfills the conditions of good elec. conductivity and freedom from pores. It is extremely thin (4-15 A.) in agreement with Tronstad's optical measurements for the passive film on stainless steels (10 A.). Tronstad's measurements for Fe, corrected for a $\text{Fe}(\text{NO}_3)_3$ film forming continuously by corrosion of passive Fe in HNO_3 , would probably also agree with this lower value. The chemisorbed film **decompose** to Fe_2O_3 more than 60 A. thick, based on apparent area, which agrees with values reported by others for the **decomposed** passive film.

IT 1309-37-1, Iron oxide, Fe_2O_3

(formation of, in Fe corrosion in HNO₃)

RN 1309-37-1 HCAPLUS

CN Iron oxide (Fe₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L68 ANSWER 61 OF 61 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1956:18796 HCAPLUS

DOCUMENT NUMBER: 50:18796

ORIGINAL REFERENCE NO.: 50:3860d-e

TITLE: Catalytic **decomposition** of ozone. II. Effect
of the valency of the **metal ion** in
the catalyst and oxidation effect of ozone

AUTHOR(S): Schwab, G. M.; Hartmann, Guido

CORPORATE SOURCE: Univ. Munich, Germany

SOURCE: Zeitschrift fuer Physikalische Chemie (Muenchen,
Germany) (1956), 6, 72-82

CODEN: ZPCFAX; ISSN: 0044-3336

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB The measurement of the catalytic **decomposition** of O₃ on a series of
group-b elements, viz. Cu₂O, CuO, Ag₂O, AgO, Au₂O₃, α-Fe₂O₃, NiO,
Ni₂O₃, by the method described in part I revealed that the catalytic
activity increases with increasing charge of the element in the catalyst.
The exceptional behavior of O₃ as oxidant on the catalyst could be
explained by the formation of more or less fixed O according to: O₃ +
catalyst = O₂ + O catalyst.

IT 1309-37-1, Iron oxide (Fe₂O₃)
(as catalyst in H₂O₂ **decomposition**)

RN 1309-37-1 HCAPLUS

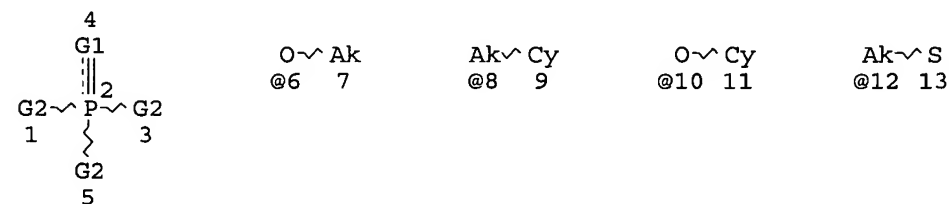
CN Iron oxide (Fe₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

(as catalyst in O₃ **decompn.**)

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L1 STR



S~Ak
@14 15

VAR G1=O/S

VAR G2=6/8/10/12/14/X/CN/AK

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

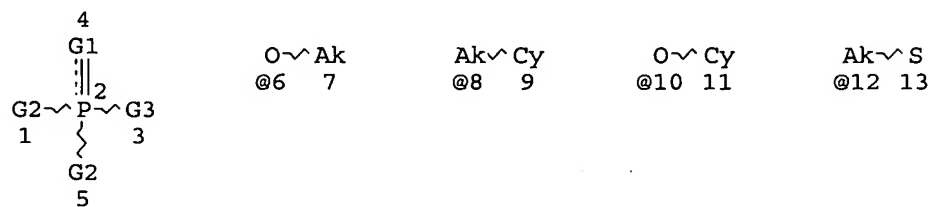
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE

L2 197145 SEA FILE=REGISTRY SSS FUL L1

L3 STR



S~Ak @14 15

Cy~Cy 16 17

VAR G1=O/S

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VAR G3=6/10/14/12/X/CN

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE

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L6 12100 SEA FILE=REGISTRY ABB=ON PLU=ON METAL OR LANTHANIDE OR TRANSITION

L7 180378 SEA FILE=REGISTRY ABB=ON PLU=ON ION OR IONS

L9 284086 SEA FILE=REGISTRY ABB=ON PLU=ON METHANOL

L10 224712 SEA FILE=REGISTRY ABB=ON PLU=ON ETHANOL/BI

L11 28277 SEA FILE=REGISTRY ABB=ON PLU=ON ALCOHOL OR ALCOHOLS

L12 44 SEA FILE=REGISTRY ABB=ON PLU=ON ALKANOL OR ALKANOLS

L13 8575 SEA FILE=REGISTRY ABB=ON PLU=ON N-PROPANOL?/CN OR ISO-PROPANO L?/CN OR N-BUTANOL?/CN OR 2-BUTANOL?/CN OR METHOXYETHANOL

L22 5443 SEA FILE=HCAPLUS ABB=ON PLU=ON L5

L23 3711905 SEA FILE=HCAPLUS ABB=ON PLU=ON L6 OR METAL OR LANTHANIDE

L24 2157436 SEA FILE=HCAPLUS ABB=ON PLU=ON L7 OR ION OR IONS

L25 192886 SEA FILE=HCAPLUS ABB=ON PLU=ON (L23 OR TRANSITION) (5A) L24

L26 46 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 AND L25

L27 14417 SEA FILE=HCAPLUS ABB=ON PLU=ON (ALCOHOLYSIS/CV OR ALCOHOLYSES /CV OR ALKANOLYSIS/CV OR ETHANOLYSIS/CV OR METHANOLYSIS/CV OR "ALCOHOLYSIS CATALYSTS"/CV OR "ALCOHOLYSIS KINETICS"/CV OR TRANSESTERIFICATION/CV) OR ALCOHOLYSIS

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L29 143 SEA FILE=REGISTRY ABB=ON PLU=ON PARAOXON OR G(W) AGENT OR VX

L30 493632 SEA FILE=HCAPLUS ABB=ON PLU=ON L29 OR PARAOXON OR G(W) AGENT OR VX

L31 265 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 AND (L30 OR ORGANOPHOS? OR PESTICID? OR INSECTICID?)

L32 33 SEA FILE=HCAPLUS ABB=ON PLU=ON L31 AND L24

L33 3410 SEA FILE=HCAPLUS ABB=ON PLU=ON (L22 OR L30) (L) DECOMPO?

L34 52 SEA FILE=HCAPLUS ABB=ON PLU=ON L25 AND L33

L35 35 SEA FILE=HCAPLUS ABB=ON PLU=ON L34 NOT THERMAL (2A) DECOMPO?

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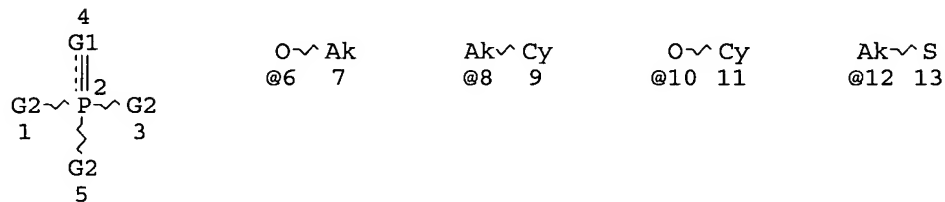
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          OR L11 OR L12 OR L13 OR METHANOL OR ?ETHANOL OR ALKANOL OR
          PROPANOL OR BUTANOL)
L55      580096 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L22 OR L30 OR ORGANOPHOS? OR
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          PESTICID? OR INSECTICID?) (L) (PREPARATION OR MANUFACT? OR
          SYNTHESIS)
L56      4988 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L55 AND L25
L57      167 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L56 AND (L27 OR DECOMP?)
L65      116727 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L23 OR TRANSITION) (A) L24
L66      127 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L57 AND (L65 OR LANTH? OR
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L67      121 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L66 NOT L38
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L74      13  SEA FILE=REGISTRY ABB=ON  PLU=ON  CU2+/BI
L75      1  SEA FILE=REGISTRY ABB=ON  PLU=ON  PT2+/BI
L76      66  SEA FILE=REGISTRY ABB=ON  PLU=ON  PD2/BI
L77      85  SEA FILE=REGISTRY ABB=ON  PLU=ON  ZN2/BI
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L79      1  SEA FILE=REGISTRY ABB=ON  PLU=ON  SC3+/BI
L80      15815 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L73 OR L74 OR L75 OR L76 OR
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L84      606 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L80 AND (L22 OR L30 OR
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L86      67  SEA FILE=HCAPLUS ABB=ON  PLU=ON  L84 AND (DEGRAD? OR DECOMP?
          OR NEUTRAL?)
L87      66  SEA FILE=HCAPLUS ABB=ON  PLU=ON  L86 NOT (L38 OR L68)
L88      61  SEA FILE=HCAPLUS ABB=ON  PLU=ON  L87 NOT (THERMAL(W)DECOMP? OR
          SILCA?)
L89      8  SEA FILE=HCAPLUS ABB=ON  PLU=ON  L88 AND ORGANOPHOS?

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L1 STR



S~Ak
@14 15

VAR G1=O/S
VAR G2=6/8/10/12/14/X/CN/AK
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

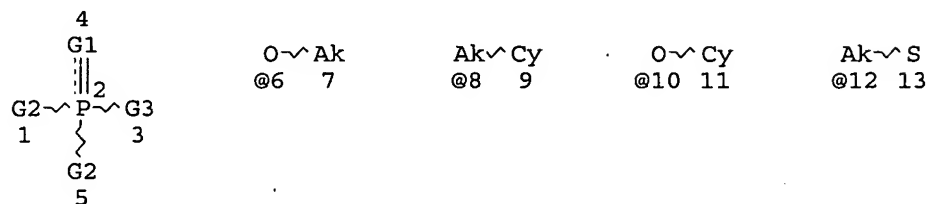
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE

L2 197145 SEA FILE=REGISTRY SSS FUL L1

L3 STR



S~Ak Cy~Cy
@14 15 16 17

VAR G1=O/S

VAR G2=6/8/10/12/14/X/CN/AK

VAR G3=6/10/14/12/X/CN

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE

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L6 12100 SEA FILE=REGISTRY ABB=ON PLU=ON METAL OR LANTHANIDE OR
TRANSITION

L7 180378 SEA FILE=REGISTRY ABB=ON PLU=ON ION OR IONS

L9 284086 SEA FILE=REGISTRY ABB=ON PLU=ON METHANOL

L10 224712 SEA FILE=REGISTRY ABB=ON PLU=ON ETHANOL/BI

L11 28277 SEA FILE=REGISTRY ABB=ON PLU=ON ALCOHOL OR ALCOHOLS

L12 44 SEA FILE=REGISTRY ABB=ON PLU=ON ALKANOL OR ALKANOLS

L13 8575 SEA FILE=REGISTRY ABB=ON PLU=ON N-PROPANOL?/CN OR ISO-PROPANO
L?/CN OR N-BUTANOL?/CN OR 2-BUTANOL?/CN OR METHOXYETHANOL

L22 5443 SEA FILE=HCAPLUS ABB=ON PLU=ON L5

L23 3711905 SEA FILE=HCAPLUS ABB=ON PLU=ON L6 OR METAL OR LANTHANIDE

L24 2157436 SEA FILE=HCAPLUS ABB=ON PLU=ON L7 OR ION OR IONS

L25 192886 SEA FILE=HCAPLUS ABB=ON PLU=ON (L23 OR TRANSITION) (5A) L24

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L27 14417 SEA FILE=HCAPLUS ABB=ON PLU=ON (ALCOHOLYSIS/CV OR ALCOHOLYSES
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TRANSESTERIFICATION/CV) OR ALCOHOLYSIS

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L29 143 SEA FILE=REGISTRY ABB=ON PLU=ON PARAOXON OR G(W) AGENT OR VX

L30 493632 SEA FILE=HCAPLUS ABB=ON PLU=ON L29 OR PARAOXON OR G(W) AGENT
OR VX

L31 265 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 AND (L30 OR ORGANOPHOS?
OR PESTICID? OR INSECTICID?)

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 OR L11 OR L12 OR L13 OR METHANOL OR ?ETHANOL OR ALKANOL OR
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 PESTICID? OR INSECTICID?) (L) (PREPARATION OR MANUFACT? OR
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 L68 61 SEA FILE=HCAPLUS ABB=ON PLU=ON L67 NOT (SLAGS OR ANCHOR? OR
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 AUTOCLAV? OR BACILLUS)
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 L74 13 SEA FILE=REGISTRY ABB=ON PLU=ON CU2+/BI
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 L77 85 SEA FILE=REGISTRY ABB=ON PLU=ON ZN2+/BI
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 L77 OR L78 OR L79
 L84 606 SEA FILE=HCAPLUS ABB=ON PLU=ON L80 AND (L22 OR L30 OR
 ORGANOPHOS? OR PESTICID? OR INSECTICID?)
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 OR NEUTRAL?)
 L87 66 SEA FILE=HCAPLUS ABB=ON PLU=ON L86 NOT (L38 OR L68)
 L88 61 SEA FILE=HCAPLUS ABB=ON PLU=ON L87 NOT (THERMAL (W) DECOMP? OR
 SILCA?)
 L89 8 SEA FILE=HCAPLUS ABB=ON PLU=ON L88 AND ORGANOPHOS?

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L89 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:547064 HCAPLUS
 DOCUMENT NUMBER: 143:82626
 TITLE: Catalytic surfaces for active protection from toxins
 INVENTOR(S): Singh, Alok; Lee, Yongwoo; Stanish, Ivan; Chang,
 Eddie; Dressick, Walter J.
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 15 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005136522	A1	20050623	US 2003-750637	20031223
US 2005136523	A1	20050623	US 2004-849621	20040520

PRIORITY APPLN. INFO.: US 2003-750637 A2 20031223

AB The present invention relates to catalytic surfaces for active protection from air or water borne toxins by passivation and adsorption of toxic materials. A bioactive catalytic material is disclosed for providing this protection from chemical exposure. The material is composed of enzymes immobilized within polyelectrolyte multilayers and a polymerizable end-capping layer to render stability to enzymes. Also disclosed is the related method for making a bioactive catalytic material and their deposition on substrates of varying size, shape and flexibility for providing active protection from chemical exposure.

IT 117698-12-1, **Organophosphorus** hydrolase
 RL: TEM (Technical or engineered material use); USES (Uses)
 (catalytic surfaces for active protection from toxins)

RN 117698-12-1 HCAPLUS

CN Esterase, organophosphate (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 15158-11-9D, complexes, contained in vinyl compds., polymer with trimethylolpropane trimethacrylate
 RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
 (complex with ethanediamidoxime; catalytic surfaces for active protection from toxins)

RN 15158-11-9 HCAPLUS

CN Copper, ion (Cu²⁺) (8CI, 9CI) (CA INDEX NAME)

Cu²⁺

IT 7631-86-9, Silica, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (of glass beads, as substrate; catalytic surfaces for active protection from toxins)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

L89 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:1089744 HCAPLUS

TITLE: Synergistic extraction of La(III) by mixtures of (1-phenyl-3-methyl-4-benzoyl) - (pyrazolone-5) and neutral organophosphorus extractants

AUTHOR(S): Jia, Qiong; Li, Deqian; Niu, Chunji

CORPORATE SOURCE: Key Laboratory of Rare Earth Chemistry and Physics, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, 130022, Peop. Rep. China

SOURCE: Fenxi Huaxue (2004), 32(11), 1459-1462
 CODEN: FHHHDT; ISSN: 0253-3820

PUBLISHER: Kexue Chubanshe

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB The present paper reports the results of the extraction of La(III) from nitride medium by mixts. of 1-phenyl-3-methyl-4-benzoyl-pyrazolone-5 (HPMBP) and Cyanex 471X(TIBPS,B). The extraction stoichiometry was studied using the methods of slope anal. and constant mole. The extracted complex was determined as $\text{La}(\text{NO}_3)_2 \cdot \text{PMBP} \cdot \text{B}$ and the equilibrium consts. were calculated. The extraction effects of La(III) by HPMBP and other **organophosphorus** extractants, Cyanex 921, Cyanex 923, Cyanex 925, di(2-ethylhexyl)2-ethylhexyl phosphate (DEH/EHP), trion-phosphate (P350), di(methylheptyl)-methyl-phosphonate have also been investigated. All the mixing systems have synergistic effects on La(III) extraction, among which HPMBP + Cyanex 923, HPMBP + Cyanex 921, HPMBP + Cyanex 925 are the most effective systems.

IT INDEXING IN PROGRESS

IT **16096-89-2**, lanthanum(3+)
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
 (lanthanum(3+) synergistic extraction/complexation with phenylmethyl benzoyl pyrazolone and **organophosphorus** extractants)

RN 16096-89-2 HCAPLUS

CN Lanthanum, ion (La^{3+}) (8CI, 9CI) (CA INDEX NAME)

La^{3+}

L89 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:396659 HCAPLUS

DOCUMENT NUMBER: 141:231411

TITLE: Extraction of U(VI), Th(IV), Sc(III), and Rare-Earth Elements from Nitric Acid Solutions by Selected Bifunctional **Neutral Organophosphorus** Compounds

AUTHOR(S): Turanov, A. N.; Karandashev, V. K.; Yarkevich, A. N.; Safronova, Z. V.

CORPORATE SOURCE: Institute of Solid State Physics, Russian Academy of Sciences, Chernogolovka, Russia

SOURCE: Solvent Extraction and Ion Exchange (2004), 22(3), 391-413
 CODEN: SEIEDB; ISSN: 0736-6299

PUBLISHER: Marcel Dekker, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The extraction of microquantities of U, Th, Sc, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, and Y from HNO_3 solns. by bifunctional **neutral organophosphorus** compds. $\text{R}_2\text{P}(\text{O})\text{CH}_2\text{P}(\text{O})\text{Ph}(\text{OBu})$, $\text{R} = \text{Ph}$ (II), $\text{R} = \text{Oct}$ (IV), $\text{R} = \text{p-Tol}$ (V), $\text{R} = \text{p-CH}_3\text{OC}_6\text{H}_4$ (VI) in organic diluents has been studied. The effect of HNO_3 concentration in the aqueous phase and that of the extractant concentration in the organic phase on the extraction of metal ions is considered. The stoichiometry of the extracted complexes has been determined and the extraction consts. calculated. The replacement of Ph radicals in the $\text{Ph}_2\text{P}(\text{O})\text{CH}_2$ -fragment of compound II by p-tolyl or p-methoxy-Ph ones leads to an increase of metal ions extraction. The introduction of octyl substituents at the same part of mol. II instead of Ph ones favors the extraction of Th(IV),

Sc(III), and heavier Ln(III) ions. However, the extraction of La-Eu from HNO₃ solns. decreases when octyl-substituted compound IV is used as an extractant. All effects of substituent replacements were studied with 1,2-dichloroethane as diluent. The extractive efficiency of compds. II, IV, V, and VI is compared with that of tetraphenylmethylenediphosphine dioxide (I) and dibutyl(diphenylphosphinylmethyl)phosphonate (III).

IT 16096-89-2, La(3+), properties 22537-40-2, Y(3+),
properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP
(Physical process); PROC (Process)
(rare earth metal cation microextn./complexation with bifunctional
phosphorus-containing organic compds.)
RN 16096-89-2 HCAPLUS
CN Lanthanum, ion (La3+) (8CI, 9CI) (CA INDEX NAME)

La³⁺

RN 22537-40-2 HCAPLUS
CN Yttrium, ion (Y3+) (8CI, 9CI) (CA INDEX NAME)

Y³⁺

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L89 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:262387 HCAPLUS

DOCUMENT NUMBER: 137:58971

TITLE: **Degradation** of methyl parathion: Alkaline
hydrolysis and effect of Cu(II) on its transformation
in acid medium

AUTHOR(S): Manzanilla-Cano, Jose A.; Barcelo-Quintal, Manuel H.;
Reyes-Salas, Octavio

CORPORATE SOURCE: Depto. de Quimica Analitica, Facultad de Quimica,
Universidad Autonoma de Yucatan, Yucatan, 97150, Mex.

SOURCE: Revista Internacional de Contaminacion Ambiental
(2001), 17(2), 71-78

CODEN: RCAME5; ISSN: 0188-4999

PUBLISHER: Centro de Ciencias de la Atmosfera

DOCUMENT TYPE: Journal

LANGUAGE: Spanish

AB The hydrolysis of methyl parathion was studied in an alkaline aqueous medium by
UV-visible absorption spectroscopy at 50°C and pH 8, 10 and 12, and
by differential pulse polarog. at 30°C and pH 12. **Degrdsn**
. of the **pesticide** was also studied in acid aqueous medium, in
presence of Cu(II). A coordination complex was found, which favors the
transformation of the **pesticide**.

IT 15158-11-9, Copper(II), processes

RL: CPS (Chemical process); PEP (Physical, engineering or chemical
process); PROC (Process)

(hydrolysis of methyl parathion in presence of)

RN 15158-11-9 HCAPLUS

CN Copper, ion (Cu2+) (8CI, 9CI) (CA INDEX NAME)

Cu²⁺

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L89 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:30369 HCAPLUS

DOCUMENT NUMBER: 132:171825

TITLE: Extraction with N,N-dialkylcarbamoylmethyl(diphenyl)-phosphine oxides from hydrochloric acid solutions

AUTHOR(S): Turanov, A. N.; Karandashev, V. K.; Kharitonov, A. V.; Lezhnev, A. N.; Safronova, Z. V.; Yarkevich, A. N.; Tsvetkov, E. N.

CORPORATE SOURCE: Institute of Solid-State Physics, Russian Academy of Sciences, Chernogolovka, Russia

SOURCE: Russian Journal of General Chemistry (Translation of Zhurnal Obshchei Khimii) (1999), 69(7), 1068-1074
CODEN: RJGCEK; ISSN: 1070-3632

PUBLISHER: MAIK Nauka/Interperiodica Publishing

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Extraction of trace amts. of metal ions from hydrochloric acid solns. with solns. of N,N-dialkylcarbamoylmethyl(diphenyl)phosphine oxides in 1,2-dichloroethane was studied with regard to the extractant structure and hydrochloric acid concentration in the aqueous phase. The title compds. are superior

to unidentate **neutral organophosphorus** extractants.

The extraction selectivity with respect to uranium increases on replacement of hydrogen in the methylene bridge between the phosphinoyl and carbamoyl groups by an alkyl radical.

IT 15158-11-9, Cu(2+), properties 16096-89-2, La(3+), properties 22537-29-7, Sc(3+), properties 22537-40-2, Y(3+), properties

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(metal extraction from hydrochloric acid solns. into 1,2-dichloroethane with N,N-dialkylcarbamoylmethyl(diphenyl)-phosphine oxides)

RN 15158-11-9 HCAPLUS

CN Copper, ion (Cu2+) (8CI, 9CI) (CA INDEX NAME)

Cu²⁺

RN 16096-89-2 HCAPLUS

CN Lanthanum, ion (La3+) (8CI, 9CI) (CA INDEX NAME)

La³⁺

RN 22537-29-7 HCAPLUS

CN Scandium, ion (Sc3+) (8CI, 9CI) (CA INDEX NAME)

Sc³⁺

RN 22537-40-2 HCAPLUS
 CN Yttrium, ion (Y3+) (8CI, 9CI) (CA INDEX NAME)

y3+

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L89 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1999:410422 HCAPLUS
 DOCUMENT NUMBER: 131:149956
 TITLE: Separation of rare earthes by extraction with
neutral organophosphorus compounds
 in presence of complexones
 AUTHOR(S): Kopyrin, A. A.; Pyartman, A. K.; Keskinov, V. A.
 CORPORATE SOURCE: St-Petersburg State Institute of Technology,
 St-Petersburg, Russia
 SOURCE: Czechoslovak Journal of Physics (1999), 49(Suppl. 1,
 Pt. 2, 13th Radiochemical Conference, 1998), 723-729
 CODEN: CZYPAO; ISSN: 0011-4626
 PUBLISHER: Institute of Physics, Academy of Sciences of the Czech
 Republic
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Physicochem. and math. models were constructed to describe the
 distribution of lanthanides(III) between water-salt solns., containing
 salting-out agents, complexones, i.e. EDTA or
 diethylenetriaminepentaacetic acid (DTPA), and **neutral**
organophosphorus compds. (NOPC). Examples of rare earth element
 separation from concs. containing 90 % of Y2O3 and 2.5 % of lanthanides were
 exptl.
 examined with application of di(isooctyl)methylphosphate, EDTA or DTPA, and
 aqueous solns. of ammonium nitrate at various pH.
 IT 16096-89-2, La(3+), properties 22537-40-2, Y(3+),
 properties
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT
 (Reactant); PROC (Process); RACT (Reactant or reagent)
 (separation of rare earth ions by extraction with **neutral**
organophosphorus compds. in presence of complexones)
 RN 16096-89-2 HCAPLUS
 CN Lanthanum, ion (La3+) (8CI, 9CI) (CA INDEX NAME)

La³⁺

RN 22537-40-2 HCAPLUS
 CN Yttrium, ion (Y3+) (8CI, 9CI) (CA INDEX NAME)

y3+

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L89 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1997:797358 HCAPLUS

DOCUMENT NUMBER: 128:106916
 TITLE: Extraction of metal ions by means of polydentate μ -imido **organophosphorus** compounds
 AUTHOR(S): Herrmann, E.; Navratil, O.; Sladek, P.; Nouaman, M.
 CORPORATE SOURCE: Hochschule Technik Wirtschaft Dresden, Germany
 SOURCE: Value Adding through Solvent Extraction, [Papers presented at ISEC'96], Melbourne, Mar. 19-23, 1996 (1996), Volume 1, 353-358. Editor(s): Shallcross, David C.; Paimin, Rohani; Prvcic, Leanne M. University of Melbourne, Dep. of Chemical Engineering: Parkville, Australia.
 CODEN: 65LLAT
 DOCUMENT TYPE: Conference
 LANGUAGE: English

AB 38 Bi- and tridentate μ -imido **organophosphorus** compds. were synthesized and investigated for the study of structure-reactivity relations in solvent extraction of metal ions. These compds. are Broensted acids, HA. Most of them are able to form **neutral** chelate complexes MAz with metal ions Mz+. Some complexes of rare earth elements (Ln), Co, Ni, Pd, Cu, Zn, and Na were isolated and investigated by ¹H, ¹³C and ³¹P NMR, IR, and EPR spectroscopy, and characterized by ESCA-technique, X-ray crystal structure anal., and magnetic measurements. The extraction of the metal ions Mg(II), Ca(II), Sr(II), Ba(II), Ln(III) (Sc, Y, La...Lu), Hf(IV), Fe(II), Co(II), Ni(II), Pd(II), Cu(II), Ag(I), Au(III), Zn(II), Cd(II), Hg(II), Pb(II), and Bi(III) depends not only on the kind of donor atoms (O, S, N), the acidity and dimerization consts. of the **organophosphorus** compound, but in some cases steric effects are dominant.

IT 15158-11-9P, Copper(2+), properties 16096-89-2P, Lanthanum(3+), properties 22537-29-7P, Scandium(3+), properties 22537-40-2P, Yttrium(3+), properties
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); RCT (Reactant); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
 (extraction of metal ions by means of polydentate μ -imido **organophosphorus** compds.)

RN 15158-11-9 HCAPLUS
 CN Copper, ion (Cu²⁺) (8CI, 9CI) (CA INDEX NAME)

Cu²⁺

RN 16096-89-2 HCAPLUS
 CN Lanthanum, ion (La³⁺) (8CI, 9CI) (CA INDEX NAME)

La³⁺

RN 22537-29-7 HCAPLUS
 CN Scandium, ion (Sc³⁺) (8CI, 9CI) (CA INDEX NAME)

Sc³⁺

RN 22537-40-2 HCAPLUS
 CN Yttrium, ion (Y³⁺) (8CI, 9CI) (CA INDEX NAME)

y3+

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L89 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:784263 HCAPLUS

DOCUMENT NUMBER: 123:178433

TITLE: **Organophosphate insecticide**
degradation by non-amended and cupric
ion-amended Fenton's reagent in aqueous solution

AUTHOR(S): Dowling, Kathryn C.; Lemley, Ann T.

CORPORATE SOURCE: Graduate Field of Environmental Toxicology, Cornell
Univ., Ithaca, NY, 14853, USA

SOURCE: Journal of Environmental Science and Health, Part B:
Pesticides, Food Contaminants, and Agricultural Wastes
(1995), B30(5), 585-604
CODEN: JPFC D2; ISSN: 0360-1234

PUBLISHER: Dekker

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Improper treatment and disposal of **pesticide**-contaminated
wastewaters raise concerns for soil and water contamination. Based on the
pilot studies, chemical treatment via Fenton's reagent (ferrous ion + H₂O₂)
of 3 **organophosphorus insecticides** in aqueous solution
appears promising. Results show that the Fenton dark reaction
degrades methyl parathion, malathion, and methamidophos, and in
many cases their breakdown products as well. Addition of cupric ion greatly
accelerates **insecticide** disappearance.

IT 15158-11-9, Cupric ion, uses

RL: CAT (Catalyst use); USES (Uses)

(**organophosphate insecticide degradation**
by non-amended and cupric ion-amended Fenton's reagent in wastewater)

RN 15158-11-9 HCAPLUS

CN Copper, ion (Cu²⁺) (8CI, 9CI) (CA INDEX NAME)

Cu²⁺

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